In re National Prescription Opiate Litigation: MDL 2804

PLAINTIFFS' MEMORANDUM IN OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE EXPERT TESTIMONY PURPORTING TO RELATE TO ABATEMENT COSTS AND EFFORTS

Summary Sheet of Concise Issues Raised

Opposition Name: Plaintiffs' Memorandum in Opposition to Defendants' Motion to Exclude Expert Testimony Purporting to Relate to Abatement Costs and Efforts

Opposing Parties: Plaintiffs Summit County and Cuyahoga County

Concise Description of Issues:

Issue 1: Are the abatement-related expert opinions of Dr. Jeffrey Liebman, Ph.D., and Dr. G. Caleb Alexander, M.D., M.S., admissible under *Daubert* and FED. R. EVID. 702?

Answer: Yes. Defendants challenge Dr. Liebman's and Dr. Alexander's opinions on relevance and reliability grounds; Defendants do not challenge their qualifications. Both Dr. Liebman and Dr. Alexander offer testimony regarding the reasonable programs and services that should be implemented to address the opioid epidemic. They further offer testimony regarding how to calculate the costs associated with these programs and services. This testimony is directly relevant to Plaintiffs' public nuisance claim and will aid the Court in understanding the scope and cost of an abatement plan that would effectively abate the public nuisance that Defendants have created in Cuyahoga and Summit Counties. Additionally, the opinions of Dr. Liebman and Dr. Alexander are supported by sufficient data and are the product of reliable principles and methods reliably applied to the facts of the case. Defendants' motion to exclude the abatement opinions of Dr. Liebman and Dr. Alexander should be denied.

Issue 2: Are the abatement-related expert opinions of Dr. Katherine Keyes, Ph.D., admissible under *Daubert* and FED. R. EVID. 702?

Answer: Yes. Defendants challenge Dr. Keyes' opinions on relevance and reliability grounds; they do not challenge her qualifications. Dr. Keyes offers testimony regarding certain reasonable programs and services that should be implemented to address the opioid epidemic. This testimony is directly relevant to Plaintiffs' public nuisance claim and will aid the Court in understanding the scope of an abatement plan that would effectively abate the public nuisance that Defendants have created in Cuyahoga and Summit Counties. Additionally, Dr. Keyes' opinions are supported by sufficient data and are the product of reliable principles and methods reliably applied to the facts of the case. Defendants' motion to exclude the abatement opinions of Dr. Keyes should be denied.

Issue 3: Are the abatement-related expert opinions of Dr. Scott Wexelblatt, M.D., admissible under *Daubert* and FED. R. EVID. 702?

Answer: Yes. Defendants challenge Dr. Wexelblatt's opinions on relevance grounds; they do not challenge his qualifications or the reliability of his opinions. Dr. Wexelblatt offers testimony regarding certain reasonable programs and services that should be implemented to address the opioid epidemic's impact on opioid-exposed pregnant mothers and infants. This testimony is directly relevant to Plaintiffs' public nuisance claim and will aid the Court in understanding the scope of an abatement plan that would effectively abate the public nuisance that Defendants have created in Cuyahoga and Summit Counties. Defendants' motion to exclude the abatement opinions of Dr. Wexelblatt should be denied.

Issue 4: Are the abatement-related expert opinions of Dr. Nancy Young, Ph.D., admissible under *Daubert* and FED. R. EVID. 702?

Answer: Yes. Defendants challenge Dr. Young's opinions on relevance grounds; they do not challenge her qualifications or the reliability of her opinions. Dr. Young offers testimony regarding the reasonable programs and services that should be implemented to address the opioid epidemic's impact on child welfare systems and related agencies, including recovery courts. This testimony is directly relevant to Plaintiffs' public nuisance claim and will aid the Court in understanding the scope of an abatement plan that would effectively abate the public nuisance that Defendants have created in Cuyahoga and Summit Counties. Defendants' motion to exclude the abatement opinions of Dr. Young should be denied.

Issue 5: Does Dr. Thomas McGuire, Ph.D. offer any opinions regarding abatement?

Answer: No. Dr. McGuire does not opine about abatement. Defendants' motion to exclude his abatement opinions should be denied as moot.

Filing Date: June 28, 2019

Response Date: July 31, 2019

Reply Date: August 16, 2019

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF OHIO

EASTERN DIVISION

IN RE NATIONAL PRESCRIPTION OPIATE LITIGATION	MDL 2804
	Case No. 17-md-2804
This document relates to:	Hon. Dan Aaron Polster
Track One Cases	

PLAINTIFFS' MEMORANDUM IN OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE EXPERT TESTIMONY PURPORTING TO RELATE TO ABATEMENT COSTS AND EFFORTS

July 31, 2019

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INTRODUCTION

Defendants seek to exclude the abatement-related opinions of Dr. Jeffrey Liebman, Ph.D., Dr. G. Caleb Alexander, M.D., M.S., Dr. Katherine Keyes, Ph.D., Dr. Scott Wexelblatt, M.D., Dr. Nancy Young, Ph.D., and Dr. Thomas McGuire, Ph.D.[1] As an initial matter, Defendants' motion to exclude McGuire's abatement testimony should be denied as moot because he is not offering any abatement opinions. Their motion also should be denied with respect to the remaining experts.

Defendants' relevance challenges to these experts are wholly without merit. Each of them offers testimony regarding the reasonable programs that should be implemented to address the opioid crisis. Liebman and Alexander further opine on how to calculate the costs associated with these programs. This testimony goes directly to the issues that are at the heart of Plaintiffs' public nuisance claim, and will aid the Court in understanding the scope and cost of an abatement plan that would effectively abate the public nuisance that Defendants have created in Cuyahoga and Summit Counties. Defendants' reliability challenges to Liebman, Alexander, and Keyes are also meritless. Each of these experts' opinions are supported by sufficient data and are the product of reliable principles and methods reliably applied to the facts of the case. Any disputes Defendants may have with the data or assumptions underlying their opinions go to the weight of the evidence, not its admissibility. Defendants' motion should be denied in its entirety.[2]

LEGAL STANDARD

Plaintiffs incorporate the legal standard set forth in Plaintiffs' *Daubert* Roadmap Brief, filed contemporaneously herewith, as if fully set forth herein. Additionally, because abatement is an

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[1] Each of these experts is a doctor (medical or Ph.D.), but for ease of reference, they will be referred to herein simply by their last name.

[2] In passing, Defendants note that they have challenged Plaintiffs' underlying nuisance claim and ability to recover abatement costs in other briefing. Ds' MOL, pp. 1, 12 & fns.1-2, 7. Plaintiffs dispute those challenges for the reasons set forth in their responses to that briefing, filed contemporaneously herewith.

equitable remedy for which the Court, not the jury, is the ultimate trier of fact,[3] this Court has particularly broad discretion when deciding whether to admit abatement-related expert testimony.[4] As this Court has previously acknowledged, "the importance of the judge's gatekeeping role is limited where, as here, the judge is the trier of fact, will be ruling on [abatement] as a matter of law and will be evaluating the weight to give to the expert testimony."[5] Regardless, the opinions of Plaintiffs' abatement experts are fully admissible even under ordinary *Daubert* standards.

ARGUMENT

I. LIEBMAN'S AND ALEXANDER'S ABATEMENT OPINIONS ARE RELEVANT AND RELIABLE AND SHOULD BE ADMITTED.

Jeffrey Liebman is a Professor of Public Policy at the Harvard Kennedy School, where he directs the Taubman Center for State and Local Government, as well as the Government Performance Lab ("GPL"). Supplemental Expert Report of Dr. Jeffrey B. Liebman, Dkt. # 2000-12 at ¶ 5.[6] He has a Ph.D. in Economics from Harvard University, and he specializes "in Public Finance and Health Economics as well as state and local government policies." *Id.* at ¶ 6.[7] He has

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3 *See, e.g., State ex rel. Miller v. Anthony*, 647 N.E.2d 1368, 1371-72 (Ohio 1995); *All. v. Baker*, 959 N.E.2d 538, 540 (Ohio App. 5th Dist. 2011).

4 *See United States v. Demjanjuk*, 367 F.3d 623, 633 (6th Cir. 2004) (trial judge's "broad discretion in the matter of the admission or exclusion of expert evidence" is "particularly broad in a bench trial"); *Deal v. Hamilton Cty. Bd. of Educ.*, 392 F.3d 840, 852 (6th Cir. 2004) ("The 'gatekeeper' doctrine was designed to protect juries and is largely irrelevant in the context of a bench trial."); *KSP Invs., Inc. v. United States*, No. 1:07-CV-857, 2008 WL 182260, at *7 (N.D. Ohio Jan. 17, 2008); *Ohio Org. Collaborative v. Husted*, No. 2:15-CV-1802, 2016 WL 8201848, at *1 (S.D. Ohio May 24, 2016); *Wilson v. State Farm Fire & Cas. Co.*, No. 3:09-CV-199, 2010 WL 11639841, at *3 (E.D. Tenn. Oct. 18, 2010).

5 *GE Lighting Sols., LLC v. Lights of Am., Inc.*, No. 1:12-CV-3131, 2015 WL 1564945, at *1 (N.D. Ohio Apr. 8, 2015) (Polster, J.). *See also Chesney v. Tennessee Valley Auth.*, No. 3:09-CV-09, 2011 WL 3516151, at *3 (E.D. Tenn. Aug. 11, 2011) ("The Court finds that these witnesses should be allowed to testify at the trial of this matter, and to the extent the District Judge finds that the testimony presented does not comply with Rule 702 or the *Daubert* standards, he may decline to consider the evidence.").

6 Liebman founded and directs the GPL, which "provides pro bono technical assistance to state and local government agencies, mostly social service agencies, to help them improve the results they achieve for their residents." *Id.* at ¶ 8. A significant portion of the GPL's work has involved substance use issues. *Id.* at ¶ 10.

7 His "research focuses on tax, budget, and health policy, impact evaluations of social programs, and strategies for making government social service agencies more effective." *Id.* He has "published numerous peer-reviewed journal articles, essays, and book chapters." *Id.*

served twice in government,[8] during which time he "supervised the development of cost estimates of complicated multi-faceted government initiatives, including Social Security reform, the American Recovery and Reinvestment Act of 2009, and the Affordable Care Act of 2010." *Id.* at ¶ 7. As Plaintiffs' expert in this case, Liebman (i) developed a comprehensive plan, focused on treatment, harm reduction, prevention, and system coordination, to abate the effects of the opioid epidemic in the Counties, and (ii) estimated the costs of implementing that plan. *Id.* at ¶¶ 1-4, 13-97; Revised Appendices B & D to Supplemental Expert Report of Dr. Jeffrey B. Liebman, Dkt. # 2000-13 at Appx. D.

Caleb Alexander is "a practicing general internist and Professor of Epidemiology and Medicine at John Hopkins Bloomberg School of Public Health." Supplemental Expert Report of G. Caleb Alexander, M.D., M.S., Dkt. # 2000-2 at ¶ 1.[9] As a pharmacoepidemiologist, Alexander's work has focused on the study of the uses and effects of drugs in well-defined populations. *Id.* at ¶ 3. For the past eight years, he has devoted most of his professional time to addressing the opioid epidemic and identifying concrete, evidence-based solutions to reduce opioid-related morbidity and mortality. *Id.* at ¶¶ 4, 14; *infra* at fn.73. As Plaintiffs' expert in this case, Alexander (i) concluded that an opioid epidemic exists in the Counties, (ii) identified the evidence-based measures and approaches that should be used in the Counties to reduce opioid-related morbidity and mortality, and (iii) developed a national abatement model to be used as a framework for estimating the costs of implementing those measures and approaches in particular locales.[10]

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[8] From 1998 to 1999, Liebman "was Special Assistant to the President for Economic Policy and coordinated the National Economic Council's Social Security reform technical working group." *Id.* at ¶ 7. From 2009 to 2010, he "worked at the Office of Management and Budget, first as Executive Associate Director and Chief Economist and then as Acting Deputy Director." *Id.*

[9] In addition to his medical degree from Case Western Reserve University, Alexander holds a Master's in Science from the University of Chicago's Department of Health Studies. Expert Report of G. Caleb Alexander, M.D., M.S., Dkt. # 2000-1 at p. 107 of 150.

[10] Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 1, 10-187 and Appx.; Caleb Alexander Dep. (04/26/19), Dkt. # 1956-4 at 55:24 – 56:9, 222:9-15.

Notably, Defendants have not sought to exclude Liebman or Alexander based on lack of qualifications. Instead, Defendants argue that their abatement opinions are neither relevant nor reliable. Ds' MOL, pp. 11-31.[11] Their arguments are wholly without merit.

A. Liebman's and Alexander's Abatement Opinions Are Relevant.

Evidence is relevant if it has any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence. FED. R. EVID. 401. Rule 401's "basic standard of relevance thus is a liberal one." *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 587 (1993).[12] So long as a qualified expert's "scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue," his or her testimony should be deemed relevant.[13]

Defendants assert that in order for Liebman's and Alexander's abatement opinions to be relevant, they "must pertain to abatement measures that directly relate to Defendants' alleged culpable conduct; can actually be implemented; and are reasonable and justified." Ds' MOL, pp. 11-12.[14] None of these arguments, however, provides a basis for exclusion.

1. Liebman and Alexander Need Not Distinguish Between the Effects of Prescription Opioids and Street Drugs for Their Opinions To Be Relevant.

Defendants argue Liebman's and Alexander's abatement opinions are irrelevant because they purportedly "made [no] attempt at distinguishing between the costs associated with the misuse and

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[11] Although Defendants seek to strike Alexander's testimony in its entirety (*Id.* at p. 36), most, if not all, of their criticisms of his opinions are based on his model for estimating potential abatement costs. *Id.* at pp. 5-7, 11-18, 25-31. Defendants do not appear to criticize his opinions regarding the types of programs that should be implemented to abate the opioid epidemic or the effectiveness of those programs, which make up the bulk of his report. Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 14-15, 25-174.

[12] *See also V & M Star Steel v. Centimark Corp.*, 678 F.3d 459, 468 (6th Cir. 2012) (relevance standard "is 'extremely liberal' ") (citation omitted).

[13] *Daubert*, 509 U.S. at 588. *See also V & M*, 678 F.3d at 468.

[14] In support, Defendants cite *Pride v. BIC Corp.*, 218 F.3d 566 (6th Cir. 2000), for the general and uncontroversial proposition that an expert's testimony must fit the facts of the case in order to assist the trier of fact. Ds' MOL, p. 12. As discussed further herein, the testimony of both Liebman and Alexander fit the facts of this case.

abuse of prescription medications (due to any cause) from those associated with the abuse of illegal street drugs[,]" and thus their proposed abatement plans are not "tailored to addressing the public nuisance caused by the defendants' alleged misconduct." Ds' MOL, pp. 12-13. This argument is mistaken for several reasons.

To begin with, Defendants have mischaracterized Alexander's opinions. As he explains in his report, some of his estimates, such as those for medication-assisted treatment ("MAT"),[15] do in fact "exclude costs arising from individuals with heroin use disorders without prior prescription opioid use."[16]

Even if this were not the case, Alexander's (and Liebman's) opinions are still relevant. The question of whether harms associated with illicit drugs were caused by Defendants pertains to Plaintiffs' causation burden at trial, not to the admissibility of these expert opinions.[17] "No one piece of evidence has to prove every element of [Plaintiffs'] case; it need only make the existence of '*any* fact that is of consequence' more or less probable."[18] Neither Liebman nor Alexander was

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[15] The estimated costs for MAT are the largest portion of the overall abatement costs set forth in Alexander's reports. Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 178 (treatment costs for OUD "represent[s] the largest abatement category"), p. 118 of 118 (MAT represents 37.3% of the overall costs in Scenario A, 25.9% of the overall costs in Scenario B, 45.2% of the overall costs in Scenario C, and 47.9% of the overall costs in Scenario D).

[16] Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 181; *see also* Alex. Dep., Dkt. # 1956-4 at 216:13 – 217:4 ("One of the improvements that I believe is reflected in our model that has not been reflected in prior Markov models of the opioid epidemic is that we separately account for a population, the minority of individuals that have heroin use that have not had prior prescription opioid use preceding the heroin use. And in our estimates of the costs of treatment that we reviewed in Scenarios B, C and D, we exclude the costs of treatment for individuals using heroin whose heroin use did not start with prescription opioids. In other words, we provide conservative estimates that exclude the population of users of heroin that didn't start with prescription opioids."), 357:15 – 358:5.

[17] *See Adams v. Ameritech Servs., Inc.*, 231 F.3d 414, 425 (7th Cir. 2000) ("[T]he question before us is not whether the reports proffered by the plaintiffs prove the entire case; it is whether they were prepared in a reliable and statistically sound way, such that they contained relevant evidence that a trier of fact would have been entitled to consider."); *Ambrosini v. Labarraque*, 101 F.3d 129, 135–36 (D.C. Cir. 1996) ("The dispositive question is whether the testimony will ' 'assist the trier of fact to understand the evidence or to determine a fact in issue,' ' not whether the testimony satisfies the plaintiff's burden on the ultimate issue at trial.") (internal citations omitted).

[18] *Adams*, 231 F.3d at 425 (quoting FED. R. EVID. 401) (emphasis in original). *See also Ambrosini*, 101 F.3d at 135–36 ("Dr. Strom's testimony that medroxyprogesterone . . . is capable of causing the types of defects suffered by Teresa relates to a contested issue and could aid the jury's resolution of the Ambrosinis' claims. That Dr. Strom's testimony alone may be insufficient for the Ambrosinis to survive summary judgment does not necessarily defeat its admissibility under the 'fitness' prong of *Daubert*. Because Dr. Strom's testimony is 'sufficiently tied' to the facts at issue, we conclude that it satisfies *Daubert*'s fitness prong.") (internal citation omitted).

retained to provide opinions regarding causation. To the extent that Plaintiffs can establish that Defendants' conduct caused the harms associated with illicit drugs,[19] it is not necessary for Liebman or Alexander to break out those harms from their abatement remedies, because Defendants are responsible for the costs of abating them all. And even if Plaintiffs are unsuccessful in linking Defendants' conduct to the harms associated with illicit drugs, to the extent that they are able to differentiate the percentage of harms attributable to such drugs, Liebman's and Alexander's analyses would still be relevant. These analyses provide the Court with a framework for abating the scourge of opioid addiction and for computing the costs of that abatement.[20] Although the portion of those costs for which Defendants are found to be responsible may affect the ultimate computation, it does not affect the framework or analysis provided by these experts.[21]

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19 *See, e.g.,* Plaintiffs' Consolidated Memorandum in Opposition to Defendants' Motions for Summary Judgment on Proof of Causation; Plaintiffs' Memorandum in Opposition to Defendants' Motion to Exclude "Gateway" Opinions of Drs. Lembke, Gruber and Keyes (filed contemporaneously herewith).

20 *See, e.g., Wilson*, 2010 WL 11639841, at *3 (expert's testimony "regarding the costs of repair or reconstruction, based upon his experience and expertise" and "the reasons why he believes rebuilding is necessary" will "aid the Court in evaluating the Plaintiff's claim"); *cf. MAR Oil Co. v. Korpan*, 973 F. Supp. 2d 775, 783–84 (N.D. Ohio 2013) (geologist's testimony admissible in trade-secret misappropriation case because it could "assist the jury in assessing the reasonableness of [the plaintiff's] expenditures for the data and the sort of benefits [the defendant] would reasonably have derived from using [that] data"); *Asad v. Contl. Airlines, Inc.*, 314 F. Supp. 2d 726, 736 (N.D. Ohio 2004) (expert's opinion that carbon monoxide (CO) level in plaintiff's work area exceeded ambient CO levels outside that area was relevant; "While it does not serve to prove [the plaintiff's] actual CO exposure, it is relevant circumstantial evidence which helps to provide the jury with a deeper understanding on CO emissions and exposure."); *KSP*, 2008 WL 182260, at *5.

21 Defendants cite several cases for the proposition that an award of future abatement costs "must be based on harm to be avoided that 'is reasonably certain to incur in the future.' " Ds' MOL, pp. 4-5 & n.3. Again, Defendants are confusing relevance under *Daubert* with a plaintiff's ultimate burden of proof. Regardless, Defendants' cases are distinguishable. In *City of Toledo v. Rumford Props., Inc.*, L-87-340, 1988 WL 114400 (Ohio App. 6th Dist. Oct. 28, 1988), the City was awarded projected abatement costs to demolish an unsafe building. *Id.* at *1. The appellate court reversed the award, noting that the action was based on a statute that *explicitly stated* that the City could recover only those costs of demolition already "incurred." *Id.* at *2. Because the City had "not incurred any costs in the abatement of [the] nuisance[,]" it was not yet entitled to its abatement costs, despite submitting some evidence of its projected costs at the hearing. *Id.* In *Fouty v. Ohio Dept. of Youth Servs.*, 855 N.E.2d 909 (Ohio App. 10th Dist. 2006), a former state employee sued the state for wrongful termination. *Id.* at 917. The appellate court reversed the trial court's award of future wage damages, noting the employee had not "established his future wage loss with the required degree of certainty[,]" because his damages expert had based his future damages calculations entirely on an assumption that was not supported by the evidence. *Id.* at 918-20. Notably, the court recognized that determining "reasonable certainty" with respect to future damages is dependent on the "nature of the case." *Id.* at 918. Defendants' remaining cases are equally distinguishable. *See Kahn v. CVS Pharm., Inc.*, 846 N.E.2d 904, 909 (Ohio App. 1st Dist. 2006) (two girls alleged to have suffered psychological damage after taking erroneously-filled prescription drug; at trial, their physicians testified that both girls "may" suffer future psychological problems and one girl's prognosis was "very, very bad[,]" although the expert "did not state whether this prognosis was the result

Defendants' argument is also mistaken because it misapprehends the nature of the opioid crisis. As both Liebman and Alexander explained, the opioid crisis is a single epidemic that requires a holistic, sustained effort to resolve.[22] Even assuming, *arguendo*, that there are other culpable parties, Liebman's and Alexander's testimony on the scope and cost of a plan that can effectively abate the entire public nuisance, not just some portion, is relevant to issues in this case, including whether the nuisance can be abated. As discussed above, Liebman or Alexander are not required to offer an opinion on causation or legal liability for their testimony to be relevant. *Supra* at pp. 5-6.

2. Liebman's and Alexander's Opinions Are Not Irrelevant for Failing to Exclude Other Sources of Funding.

Defendants next criticize Liebman and Alexander for failing to account for other sources of funding, including existing programs available in the Counties, when calculating the cost of their abatement plans. Ds' MOL, pp. 13-15. As a preliminary matter, Liebman's and Alexander's reports demonstrate that they are aware of existing programs and existing sources of funding for programs that seek to address the opioid crisis in the Counties, including government and private sector sources.[23] However, the abatement plan or remedies they propose are intended to present a complete picture of the effort necessary to abate the entire epidemic.[24] Furthermore, neither

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of the misfiled prescription"; court affirmed directed verdict in favor of defendant as to future damages claim because "[n]either expert testified with reasonable certainty about the probability of future damages"); *Loc. Bd. of Health, Boone Cnty. v. Wood*, 243 N.W.2d 862, 869 (Iowa 1976) (applying Iowa law; county sued landowners for costs it incurred in abating public nuisance involving debris on property; court held county board member not qualified to give expert testimony as to whether the abatement costs were reasonable and necessary, and remanded the case "to afford plaintiffs the opportunity to prove the necessity of the services performed in abating such nuisance and to the reasonableness of the charges therefor"). Defendants also cite *Triangle Props., Inc. v. Homewood Corp.*, 3 N.E.3d 241, 255 (Ohio App. 10th Dist. 2013), to argue that an injured party should not receive a "windfall." That case involved a post-trial appeal of a judgment on a breach of contract claim. *Id.* The court found that the contract's liquidated-damages provision did not support the full judgment amount and, thus, the plaintiff had been awarded a windfall, which ran "contrary to established legal principles as to the recovery of damages for breach of contract." *Id.* at 255. That case has no bearing on the admissibility of Plaintiffs' abatement experts' opinions in this case.

22 Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 16-25; Jeffrey Liebman Dep. (05/03/19), Dkt. # 1966-5 at 222:7-15.

23 *See, e.g.,* Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 22; Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 36.

24 As Alexander explained in his report: "Here and throughout, while I suggest remedies that should be included as part of a comprehensive abatement plan, I leave it to the communities themselves to determine whether elements of any given remedy are already in place and the degree to which further investment should be undertaken." Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 54 n. 19.

Liebman nor Alexander opine, nor were they asked to opine, on who should pay for the abatement costs.[25] Thus, contrary to Defendants' assertions (Ds' MOL, pp. 2, 14), Liebman and Alexander did *not* overlook the fact that abatement programs may be paid for and operated by a variety of sources, nor did they offer any opinion as to the portion of the abatement costs for which Defendants should be responsible.[26]

Under the abatement remedy, Defendants are liable not for a particular dollar amount (*i.e.*, damages) but for abating the public nuisance. Thus, under their public nuisance claim, Plaintiffs do not seek damages for themselves but rather to have the Court create and supervise a trust—funded by the tortfeasors—that would be used to abate the nuisance in the Counties. Defendants' wrongdoing has already imposed massive externalized costs in the Counties and indeed across the country.[27] Defendants' argument presupposes that, because certain actors (the federal government, state and local governments, private insurance, etc.) have been forced to shoulder the costs of the public nuisance, Defendants' obligation to abate that nuisance is diminished. That is not the case—and Defendants cite no legal authority supporting their novel theory. Accordingly, there is nothing prejudicial (or irrelevant) about allowing testimony on the full cost of abating the public nuisance.

Even assuming, *arguendo*, that Defendants are not liable for abatement costs borne by third parties (they are), the sources of funds that Defendants point to are not guaranteed in the future. For example, in or around 2014, Medicaid coverage for MAT expanded in the state of Ohio, enabling many residents of the Counties to obtain life-saving services. Gerald Craig Dep. (01/11/18), Dkt. # 1961-7 at 182:6-12, 192:23 – 193:18. Yet, there is no guarantee that Medicaid coverage of MAT or other opioid treatment services will remain at current levels. Similarly, both

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25 Alex. Dep., Dkt. # 1956-4 at 203:12-25, 207:9 – 208:22, 209:18-21, 321:18 – 322:1; Lieb. Dep., Dkt. # 1966-5 at 140:8-10.

26 Alex. Dep., Dkt. # 1956-4 at 203:18-22 ("Q: Does your model assume that the defendants are responsible for all of the abatement costs -- A: No, sir. Q: -- that it predicts?"), 292:19-22; Lieb. Dep., Dkt. # 1966-5 at 302:14 – 303:2.

27 *See, generally,* Report of Professor Thomas McGuire Regarding Public Nuisance, Dkt. # 2000-18.

Counties have received grants from third parties in the past, but such grants expire after a set period of time and there is no guarantee that they will remain available in the future or that, even if available, the Counties will be successful in obtaining them again. Ex. A (12/05/18 Darin C. Kearns Dep.) at 248:19 – 249:4.[28] Abatement is an equitable remedy. As between the parties, the wrongdoer bears the risk of uncertainty.[29] For this reason, it would not be appropriate to place the risk that third-party funds will not be available in the future on the residents of the Counties. Again, Defendants' assertions based on disputed facts or law that they are not liable for certain costs do not justify excluding expert testimony on relevancy grounds; their critiques can be addressed on cross-examination. *See Daubert*, 509 U.S. at 596; *infra* at fn.49.[30]

3. Liebman's and Alexander's Reliance on National Data Is Appropriate and Does Not Render Their Opinions Irrelevant.

Defendants also claim Liebman's and Alexander's abatement opinions are irrelevant because they rely on nationwide data. Ds' MOL, pp. 15-17. Their argument is without merit.

Liebman explains in his report that the methodologies he employed are relied upon by experts in the field to design and cost governmental programs.[31] In appropriate circumstances, this

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[28] Moreover, some third-party funds, but for the existence of the public nuisance, would be available to spend on other priorities in the Communities. Lieb. Dep., Dkt. # 1966-5 at 308:21 – 309:10.

[29] *Cf. Bigelow v. RKO Radio Pictures*, 327 U.S. 251, 265 (1946) ("The most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created. That principle is an ancient one, and is not restricted to proof of damage in antitrust suits[.]") (internal citations omitted); *State of Ohio ex rel. Brown v. Mahoning Cty. Med. Soc.*, No. C76-168-Y, 1979 WL 1738, at *5–6 (N.D. Ohio Dec. 5, 1979) (same); *Modic v. Modic*, 633 N.E.2d 1151, 1156 (Ohio App. 8th Dist. 1993) (recognizing "well-accepted principles from tort law which specify that once the *fact of damage* is established with reasonable certainty the plaintiff is given considerable latitude in proving the *amount* of the loss lest the wrongdoer escape his obligation to make restitution") (emphasis in original).

[30] *Pride*, which neither involved a nuisance claim or abatement costs, is entirely distinguishable. 218 F.3d 566. In *Pride*, the plaintiff sued a cigarette lighter manufacturer for the death of her husband as a result of an exploding cigarette lighter. *Id.* at 568. The Sixth Circuit affirmed the exclusion of the plaintiff's causation experts on *reliability* grounds, not because their testimony was irrelevant. *Id.* at 578.

[31] Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 28.

methodology may include reasonable reliance on national data.[32] At his deposition, Liebman described his general approach to relying on national data in response to a question about how he estimated the percentage of the Counties' residents with opioid use disorder ("OUD") currently receiving treatment:

> [I]n coming up with this number, I not only looked at the national estimates and talked to national experts, but I also talked to providers on the ground and the ADAMHS Board, and my judgment in using this number comes from both national data and from local perspective on how they think they're doing in treating people.

Lieb. Dep., Dkt. # 1966-5 at 160:5-12.

Thus, when relying on national data—or data from other regions of the country that are similarly impacted by an opioid epidemic—Liebman verified the relevance of such data to the Counties by consulting with local practitioners, government agencies, and other data sources. *Id.* at 186:8 – 187:18. He further testified that he "craft[ed] a solution that match[ed] the local conditions" in the Counties only *after* learning about the local situation.[33] The individuals that Liebman interviewed in the Counties are documented in Appendix C to his Supplemental Report, and the bases for his estimates are documented in a lengthy appendix that demonstrates his calculations.[34] Thus, each of Liebman's decisions about which data to apply was carefully considered in reliance on his interviews with local stakeholders, national and local data, and his professional experience designing and costing government programs.[35]

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[32] *See, e.g.*, Lieb. Dep., Dkt. # 1966-5 at 284:9-14 ("[W]hen I've done this kind of work . . . for the [Harvard Kennedy School] GPL, doing price estimates in different communities and we need that inflation number, I tend to take the projections from [the Congressional Budget Office] like I did in this report.").

[33] *Id.* at 87:14-16; *see also* Lieb. Supp. Rep., Dkt. # 2000-12 ¶ 24.

[34] Lieb. Supp. Rep., Dkt. # 2000-12 at Appx. C; Revised Appxs. B & D to Lieb. Supp. Rep., Dkt. # 2000-13 at Appx. D.

[35] Specifically, Liebman's opinions are based on his own expertise, dozens of hours of interviews with local stakeholders, a review of hundreds of client documents, the expert opinions of Alexander and Dr. Anna Lembke in this litigation, and a review of relevant economic literature on public health, among other sources. *See, e.g.,* Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 5-10, Appx. A-C; Revised Appxs. B & D to Lieb. Supp. Rep., Dkt. # 2000-13 at Appx. B; Lieb. Dep., Dkt. # 1966-5 at 25:17-18, 87:8-20, 88:6-16, 89:3-14, 92:2 – 94:8, 220:16 – 222:15, 296:3 – 297:13, 308:6 – 309:10, 332:7 – 333:1. Liebman's expertise in the area of designing and costing government programs to address complex social issues is based on his professional training and experience as an economist,

The *only* specific example Defendants offer of Liebman purportedly "relying on nationwide data that does not fit the facts of the case" is his reliance on national OUD prevalence rates. Ds' MOL, p. 17. Liebman used 1.4% as the OUD prevalence rate in the Counties based on national estimates in a peer-reviewed article, Pitt AL, Humphreys K, and Brandeau ML, "Modeling Health Benefits and Harms of Public Policy Responses to the US Opioid Epidemic," AJPH October 2018, Vol 108, No. 10 (2018).[36] Pitt *et al.*, in turn, based their national estimates on mortality data, a study by the RAND Corporation, and the Substance Abuse and Mental Health Services Administration's National Survey on Drug Use and Health (NSDUH).[37] The NSDUH provides state-level estimates of OUD prevalence, which show that the OUD rates in Ohio as of 2015-2016 are slightly higher than the national average, confirming the reasonableness of relying on national estimates in this instance.[38] Additionally, Liebman testified that recent studies, including one from Massachusetts

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including extensive experience providing technical assistance to state and local government agencies, principally social service agencies. Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 5-10; Lieb. Dep., Dkt. # 1966-5 at 25:17-18 ("[H]ealth economics is part of my expertise."), 26:21 – 29:3 (he "helped teach a course at the Harvard Kennedy school that was addressing" programs and policies that might best reduce the impact of opioid abuse"), 30:9 – 31:11 (as part of his GPL work, he was involved with jurisdictions thinking about addiction issues, including some for which opioid addictions were at the forefront), 31:20 – 32:6, 87:8-20 ("I am doing what I always do when I am asked by a committee to help them make progress on a social problem, which is I consult with national – with the national – I read literature that's been written about the problem, often nationally, I consult with national experts. I then learn enough about the local situation to craft a solution that matches the local conditions. So that's a framework that I have applied over and over again both when I have served in government and in my work at the [GPL].").

[36] Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 95; Revised Appxs. B & D to Lieb. Supp. Rep., Dkt. # 2000-13 at Appx. D, Tbl. C.0, at [1]; Ex. B (2018 Pitt Article).

[37] Ex. B (2018 Pitt Article) at Supplement, p. S4. Pitt *et al.* primarily relied on mortality data and the RAND study because the NSDUH "tends to underreport [OUD] due to omission of some key populations (e.g., homeless, incarcerated) that are known to have high rates of illicit drug use." *Id.* Nevertheless, NSDUH data are helpful for understanding how prevalence in the Counties compares to national prevalence.

[38] The NSDUH also provides annual estimates of "nonmedical use of prescription pain relievers in the past year" at the substate level. *See* Lipari RN, Van Horn SL, Hughes A, and Williams M, The CBHSQ Report, "State and Substate Estimates of Nonmedical Use of Prescription Pain Relievers," *available at* https://www.samhsa.gov/data/sites/default/files/report_3187/ShortReport-3187.html (last accessed July 30, 2019). With respect to prescription pain relievers, this is a broader measure than OUD because it includes individuals who used pain relievers for nonmedical purposes who do not necessarily have OUD. Nationally, the rate of nonmedical use of prescription pain relievers in the most recent period for which data are available (2012-2014) was 4.31%. *Id.* at tbl 2. In comparison, the rates for Cuyahoga County and Summit County were again slightly higher at 4.60% and 4.82%, respectively. *Id.* at tbl. S1. Therefore, while the available data have different advantages and disadvantages, all confirm the reasonable conclusion that OUD rates in the Counties are slightly higher than the national average.

based on medical claims data, suggest that actual prevalence rates may be even higher than the rate he used. Lieb. Dep., Dkt. # 1966-5 at 157:6-22. According to Liebman: "I decided to stick with the more conventional estimate because I don't think the scientific opinion has moved all the way toward these higher level estimates." *Id.* at 157:12-15.

With respect to Alexander's opinions, it is unsurprising that he relied on national data demonstrating the success of particular abatement programs around the country, as he was tasked with designing and calculating the cost of a *national* abatement plan,[39] while Liebman was tasked with crafting a localized application. Although Alexander provides an example of how the Counties' abatement costs could potentially be extrapolated from his national cost estimates,[40] he explicitly states that he was not retained to design or calculate the cost of an abatement program specifically for the Counties.[41] But this by no means renders his opinions irrelevant. Alexander describes the types of programs needed to abate the epidemic, as well as the effectiveness and estimated costs of those programs.[42] His plan provides an underlying framework that will aid this Court in determining which abatement measures are reasonable and necessary to abate the opioid epidemic.[43] It will further aid the Court in understanding the reasonable costs of implementing those measures.[44] And when considered in conjunction with Plaintiffs' other Counties-specific evidence and expert testimony, Alexander's testimony will aid this Court in determining the appropriate amount of

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39 Alex. Dep., Dkt. # 1956-4 at 56:1-9, 64:10-15, 192:12-16, 253:10-12, 272:25 – 273:1, 320:6-7.

40 Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 175-176, 180; Alex. Dep., Dkt. # 1956-4 at 260:11-16, 323:12-25.

41 Alex. Dep., Dkt. # 1956-4 at 56:10-15, 114:16-20 ("Our effort wasn't to provide inputs to provide specific estimates for Cuyahoga and Summit Counties, although our model could potentially be used for that purpose."), 116:11-20, 136:4-8, 192:12-16, 253:10-14, 263:19-24, 271:17-21, 278:1-6, 320:6-7.

42 Alex. Supp. Rep., Dkt. # 2000-2.

43 Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 26-174.

44 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 176 n.38 ("While many communities will ultimately need to develop local estimates, these national estimates may nevertheless be of interest both with respect to methodology as well as the estimates derived."); Alex. Dep., Dkt. # 1956-4 at 110:17-21, 135:8-14, 155:15-18, 195:13-15, 212:8-18, 222:9-15.

abatement costs to be awarded to the Counties.[45] Thus, Alexander's report is relevant to the question of a local remedy even though Alexander himself does not provide an opinion about local abatement.

Defendants contend that use of nationwide data implicates the requirement of "direct injury" discussed in *Cincinnati v. Beretta U.S.A. Corp.*, 768 N.E.2d 1136 (Ohio 2002), *see* Ds' MOL, p. 17,[46] but their argument confuses apples and oranges. The "direct injury" requirement discussed in *Beretta* (and in *Holmes v. Securities Inv'r Protec. Corp.*, 503 U.S. 258 (1992), on which *Beretta* relies) pertains to the relationship between Defendants' conduct and the harms for which Plaintiffs seek relief. This Court has already found this relationship to be sufficiently direct. *See* Dkt. # 1203. The Liebman and Alexander reports pertain to how to remedy those direct harms. The use of nationwide data does not render irrelevant or remote Liebman's and Alexander's opinions about how to abate the opioid epidemic in the Counties, nor does the use of this data make the harms for which Plaintiffs seek recovery any less direct than if the data available to craft the remedy were limited to data generated within the Counties. Indeed, the source of the data from which the experts craft the local abatement remedy has nothing whatsoever to do with the relevance of the remedy itself, so long as the remedy offered pertains specifically to the Counties' injuries.[47]

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[45] Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 15 ("The specific utilization and combination of measures should be subject to the opinions of other experts, especially within the affected communities."), ¶ 39, ¶ 176 ("My goal was not to identify the precise costs of any given category, but rather to develop an initial estimate from which costs specific to Cuyahoga and Summit County can be developed based on this Court's findings with regard to the nuisance in these jurisdictions."), ¶ 179.

[46] Defendants also cite *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517 (6th Cir. 2008) for the uncontroversial proposition that an expert's testimony must be relevant to be admissible. *Id.* In *Scrap Metal*, the defendant did not allege that the expert's testimony was irrelevant. 527 F.3d at 529.

[47] Plaintiffs recognize that the experts' opinion must "fit" the facts of this case. But together, Liebman and Alexander provide the Court with the basis for a specifically local abatement plan for the Counties that *does* fit the facts of the case. To the extent that Defendants contend that use of certain nationwide data makes that local abatement plan *unreliable*, that argument is addressed below. *Infra.* at § I.B.

B. Liebman's and Alexander's Abatement Opinions Are Based on Reliable Methodologies.

Most of Defendants' criticisms regarding the reliability of Liebman's and Alexander's testimony are based on the data used, and assumptions made, by these experts for purposes of their abatement models. As discussed in greater detail below, these criticisms are wholly without merit. But even if Defendants' criticisms were valid (which they are not), this would not render Liebman's and Alexander's opinions unreliable under *Daubert*. Defendants are confusing "the *credibility and accuracy* of [an expert's] opinion with its *reliability*." *See Scrap Metal*, 527 F.3d at 529 (emphasis in original). " '[R]ejection of expert testimony is the exception, rather than the rule,' " and the Sixth Circuit "will generally permit testimony based on allegedly erroneous facts when there is some support for those facts in the record." *Id.* at 530 (citation omitted). Liebman's and Alexander's opinions rest upon a reliable foundation and are supported by the available evidence.[48] Any objections Defendants may have to the assumptions or data used by Liebman and Alexander are properly addressed through cross-examination, particularly here where the Court is the ultimate trier of fact on abatement.[49]

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[48] For these reasons, Defendants' cited cases (Ds' MOL, pp. 18) are distinguishable. *See Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 143-44 (1997) (plaintiff's experts' causation opinions excluded as unreliable *ipse dixit* where they relied on animal studies in which mice developed a different type of cancer than plaintiff after being injected with exponentially higher doses of the pertinent chemical than the amount to which plaintiff was exposed; plaintiff failed to explain "how and why the experts could have extrapolated their opinions from these seemingly far-removed animal studies"); *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 674 (6th Cir. 2010) (neurologist's causation opinion unreliable where "he failed to cite *any* non-speculative evidence for his conclusion" and he acknowledged the multiple "speculative jumps" he made in forming his opinion); *Cummins v. Lyle Industries*, 93 F.3d 362, 366, 368-70 (7th Cir. 1996) (agricultural engineer's testimony regarding feasibility of alternative designs and warnings in a product-liability case deemed unreliable where he "never tested his alternative designs and warnings or read any studies of such tests[,]" did "not have practical knowledge concerning the use of the alternative components in an industrial, machine-tool production environment[,]" and there was no indication that his opinions satisfied *any* of the *Daubert* guideposts); *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319-20 (7th Cir. 1996) (causation expert's opinions properly excluded where he "offer[ed] neither a theoretical reason to believe that wearing a nicotine patch for three days, or removing it after three days, could precipitate a heart attack, or any experimental, statistical, or other scientific data from which such a causal relation might be inferred or which might be used to test a hypothesis founded on theory" and also failed to explain "how a nicotine overdose . . . can precipitate a heart attack" or provide "a reference to a medical or other scientific literature in which such an effect of nicotine is identified and tested").

[49] *See Daubert*, 509 U.S. at 596; *Wilson*, 2010 WL 11639841, at *3 ("The Defendant also argues that Mr. Copeland's testimony regarding his calculations of the cost of repairing or rebuilding the Residence, should be excluded, because they are inaccurate and rely upon 'improper assumptions.' . . . The Court finds that the Defendant's

1. The Facts and Data upon Which Liebman Relies Are Sufficiently Reliable.

Liebman's testimony is the product of reliable principles and methods and he reliably applied them to the facts of this case. Specifically, he "applie[d] the general methodological framework used in [his] prior analysis of government programs, in [his] academic and government work, as well as in the nearly 100 projects that have been implemented under [his] direction at the GPL." Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 28. This methodology includes (i) "gather[ing] qualitative information about the need for opioid-related services in the Cuyahoga and Summit communities, including assessments of the populations in need of services, existing infrastructure and service gaps, and information on the contours and severity of the epidemic" through "meetings and phone calls with community members involved in addressing the opioid crisis;" (ii) "collect[ing] data measuring the extent of the opioid crisis and current response efforts in the Cuyahoga and Summit communities;" and (iii) "review[ing] the published literature on remedies to the opioid epidemic, on the effectiveness of proposed interventions, and on the experience of other communities that have adopted similar interventions." *Id.* at ¶¶ 28-31. It also includes, as described further below, applying budgeting and forecasting principles that are widely used in public economics and policy analysis. *Id.* at ¶ 32.

Defendants dispute the reliability of Liebman's methodology first by repeating their argument that the OUD prevalence estimate he used is not reliable. Ds' MOL, p. 20. This argument is addressed above. *Supra* at pp. 10-12. In addition, it is worth noting that Defendants' argument is premised on a misunderstanding of the source of Liebman's estimate. He did not—as

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objections to the inclusion of these specific items are the type of criticisms that are properly addressed through vigorous cross-examination. *Again, the Court will act as the finder of fact in this matter, and it is well-equipped to distinguish those damages which have been properly proven from those that have not.*") (internal citations omitted) (emphasis added); *cf. Ohio Org.*, 2016 WL 8201848, at *4 ("Dr. Hood's failure to account for certain controls in his case studies does not change the fact that his studies and opinions have a reasonable factual basis—the quantitative analysis of data regarding voter turnout and registration. Plaintiffs' challenge to Dr. Hood's failure to account for various controls in his case studies therefore implicates the accuracy and credibility of those studies, as well as their relevance to the impact of *Ohio's laws* on voter turnout, but not their reliability. Plaintiffs appropriately examined Dr. Hood's failure to account for various controls on cross-examination, and the Court will consider that testimony in evaluating the weight of Dr. Hood's opinions.") (internal citations omitted).

Defendants assert—"start[ ] with an estimate from some sources, ma[k]e some speculative adjustments to that estimate, and then ke[ep] that estimate constant over the course of 15 years." Ds' MOL, p. 20. Rather, as described above, the 1.4% figure comes from the Pitt *et al.* study; Liebman did not make "speculative adjustments" to arrive at that figure. *Supra* at pp. 11-12. Moreover, before concluding that the figure reliably reflected OUD prevalence in the Counties, Liebman validated it against a variety of other data. *Id.*

Second, Defendants argue that Liebman's conclusions are unreliable because he did not "creat[e] projections of the future opioid population" to determine treatment capacity beyond the first year of his abatement plan. Ds' MOL, p. 20. Again, it would be helpful to understand the methodology Liebman utilized to arrive at his estimates for treatment capacity. First, using the opioid prevalence rate, he estimated the number of people in the Counties with OUD. Revised Appxs. B & D to Lieb. Supp. Rep., Dkt. # 2000-13 at Appx. D, tbl. C.0 at [1]-[3]. Then, "based on . . . the literature and the expert opinion of Dr. [Anna] Lembke," as well as "a much broader set of sources, including the federal government's . . . recommended strategies around combatting the opioid crisis, the SAMHSA reports, the CDC reports," and "conversations with medical experts like Dr. Alexander and with local physicians on the ground in the two bellwethers," Liebman concluded that doubling treatment capacity in the Counties is feasible and necessary to make progress in abating the epidemic.[50] The need to maintain treatment capacity at twice its current level and MAT capacity at four times its current level is a reflection of the fact that less than half of people who need treatment for OUD currently receive it.[51] Thus, the limiting factor in OUD is not the size of the population with OUD but rather the ability to ramp up treatment capacity, which requires time and large capital investments in facilities, equipment, and training doctors.[52] As Liebman explained,

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[50] Lieb. Dep., Dkt. # 1966-5 at 164:9-15, 182:11 – 183:1.

[51] Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 26, 42-44 & n.30.

[52] Revised Appxs. B & D to Lieb. Supp. Rep., Dkt. # 2000-13 at Appx. D, tbl. C.1.

once capacity has been ramped up, it is necessary to maintain expanded capacity levels for a number of years to make progress into the large pool of people with OUD. Lieb. Dep., Dkt. # 1966-5 at 165:3-8.

The need to maintain treatment capacity at twice its current level is also a reflection of the fact that once an individual has contracted OUD, he or she may struggle with the disease for years, if not a lifetime. *Id.* at 215:20 – 216:1. This leads to a ratcheting effect whereby individuals continue to enter the population of people with OUD, even as others exit. Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 94. For this reason, the proper frame of reference for evaluating the success of treatment in reducing the number of people with OUD is the number of people who would have had OUD *but for* the implementation of the abatement plan. Therefore, Defendants' assertion that Liebman's plan assumes that it will not be successful is false. Defendants' claim that the number of people with OUD is the only measure of "success" is also mistaken. Ds' MOL, p. 22. It ignores the other benefits of MAT and other OUD treatments. While an individual receiving treatment may not be "cured" of his or her underlying condition, he or she may be able to participate in and contribute to society in ways that someone with untreated OUD may not—for example, by working a job, parenting, avoiding crime, etc.[53] The success of such treatments is measured by their ability to improve quality of life and reduce mortality risk, not necessarily by their ability to cure.

Defendants confuse their facts when they criticize Liebman for relying on the expert report of Dr. Theodore Parran, which has since been withdrawn. Ds' MOL, p. 21. Although Parran is no longer designated as an expert witness, he has been identified as a fact witness.[54] And Liebman never relied on Parran's now-withdrawn expert report. Rather, Liebman testified that he confirmed

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[53] Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 186.

[54] Parran has been the co-medical director of Rosary Hall at St. Vincent Charity Hospital in Cleveland since July of 1988 and has treated patients with addictive disease throughout Northeast Ohio since that time. He provides medical directorship services to other numerous substance abuse treatment programs in Cleveland and the surrounding area.

the need to double treatment capacity through a *conversation* with Parran. Lieb. Dep., Dkt. # 1966-5 at 183:10-24. Given that Parran is a fact witness with respect to substance abuse treatment in Cuyahoga County, it was entirely appropriate for Liebman to consult with him on the issue of treatment capacity. Moreover, as described above, Liebman's testimony makes clear that his conclusion that treatment capacity in the Counties can and should be doubled is based a broad set of sources.[55] The cases cited by Defendants only bolster the reliability of Liebman's testimony.[56]

Third, Defendants argue that Liebman's methodology is unreliable because he "performed what appears to be an *ad hoc* literature search." Ds' MOL, p. 19. In support, Defendants cite *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices and Prod. Liab. Litig.*, 174 F. Supp. 3d 911, 934-35 (D.S.C. 2016). However, that case presented an entirely different situation. The expert who was excluded in *Lipitor*, Dr. Roberts, opined that there was a causal link between statins and diabetes based on a review of the existing scientific literature; however, she admitted that she had not actually conducted a search for articles related to statins and the risk of diabetes, but instead had apparently

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[55] Likewise, when asked at deposition about the treatment capacity in his plan, Liebman did not (as Defendants assert) "merely" state that he hoped the capacity would be fully utilized. Ds' MOL, p. 22. Rather, in addition to explaining the basis of his opinion, he testified as follows based on his experience implementing programs at the GPL: "The abatement plan is designed to double capacity, and I – my experience has been that in these kinds of programs, one keeps them filled . . . ." Lieb. Dep., Dkt. # 1966-5 at 166:15-20; *see also id.* at 165:16-19 ("You know, maybe we only keep 98 percent of slots filled. But I'm not trying to parse that issue.").

[56] Defendants cite *In re Whirlpool Corp. Front-Loading Washer Prods. Liab. Litig.*, 45 F. Supp. 3d 724 (N.D. Ohio 2014), in which an expert who was *not* a statistician sought to opine that another expert's "statistical analysis [was] valid and correct." *Id.* at 741. In this instance, Liebman is an expert in designing government programs to address social issues and, following his professional practice, has formed his own opinion as to treatment capacity needs in the Counties. As the *Whirlpool* court observed, while Liebman "may not parrot or vouch for [another expert's] analysis and opinions, he is permitted to state that [the other expert]'s conclusions dovetail with and support his own." *Id.* Defendants also cite *Whirlpool* for the proposition that " 'an expert may rely on the work of others, but the expert must be able to testify to the veracity of that work[.]' " *Id.* (quoting *St. Paul Fire and Marine Ins. Co. v. Nolen Grp., Inc.*, No. Civ.A. 02-8601, 2005 WL 1168380, at *9 (E.D. Penn. May 13, 2005)). The *St. Paul* court explained further: "This does not mean that an expert must rely solely on his own work, but he can rely on another's information or work, if it is of the type normally relied upon by an expert in the course of his work." 2005 WL 1168380, at *3. Here, information from local health care providers about treatment capacity needs is "of the type normally relied upon" by economists involved in designing and costing complicated multi-faceted government initiatives. *Id.* The rule is no different in the next case cited by Defendants, *In re TMI Litig.*, 193 F.3d 613 (3d Cir. 1999), which Defendants admit involved "blind reliance on other experts." Ds' MOL at p. 21. Finally, Defendants cite *Asad*, in which the expert testified that his opinion was merely an "educated guess." 314 F. Supp. 2d at 734. But, as demonstrated above, Liebman's opinions in this case are not mere guesses.

relied on her memory of which articles had been published. *Id.* at 935.[57] Here, Liebman *did* conduct systematic literature searches.[58] Liebman's methodology for each literature search included conducting an initial search using relevant keywords, and then expanding the universe of literature to include relevant articles cited in the articles identified by the initial search, as well as other articles identified as relevant by specialists. Lieb. Dep., Dkt. # 1966-5 at 93:17 – 94:8. This is the same methodology that he uses as a professional economist. Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 28, 31-32.

Moreover, *Lipitor* is not on point, as Liebman's task is entirely different from the task undertaken by the expert in that case. Liebman is not opining on the scientific consensus as to a causal relationship.[59] Rather, he is engaged in the practical task of designing a plan that will abate the opioid crisis. *Lipitor's* holding has not altered the Federal Rules of Evidence to add a requirement that all witnesses offering an expert opinion must document a systematic literature review. In any case, Defendants do not actually dispute in their motion that the interventions Liebman proposes are effective and necessary. The scientific evidence supporting the efficacy of MAT, for example, is overwhelming.[60]

And contrary to Defendants' assertions otherwise (Ds' MOL, pp. 23-24), Liebman's opinions are not based solely on his literature review, nor were they developed solely in the context

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[57] The court excluded her opinion as unreliable for several reasons: "Because Dr. Roberts had no methodology for determining what studies to consider and which to disregard, apparently just choosing those that she remembered or found supportive of her opinion, because she fails to adequately account for contrary evidence, because she confuses association and causation, because she lacks the epidemiological expertise to evaluate epidemiological studies in an Bradford Hill analysis, and because she fails to provide any analysis at all as to whether particular dosages are capable of causing diabetes, the Court excludes Dr. Roberts' causation opinions as unreliable under Rule 702." *Id.*

[58] Specifically, he conducted a systematic literature search for any proposed plans to address the opioid epidemic. In addition, he conducted systematic literature searches for articles related to each of the nineteen programs in the proposed abatement plan. Lieb. Supp. Rep., Dkt. # 2000-12 at p. 7 (listing the nineteen programs) and ¶ 31; Lieb. Dep., Dkt. # 1966-5 at 91:14-19, 93:17 – 94:8.

[59] In fact, he expressly disclaims that he is offering an opinion on causation. Lieb. Dep., Dkt. # 1966-5 at 63:11-14.

[60] Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 186.

of litigation.[61] As noted previously, Liebman has extensive experience (i) advising state and local governments on how to address complex social issues, (ii) working in the federal government to develop cost estimates of complicated multi-faceted initiatives, and (iii) teaching related topics at one of the premier public policy institutions in the United States. *Supra* at pp. 2-3, 10-11 n.35. His expertise is in designing and improving social services programs on behalf of social services agencies, as well as developing cost estimates of complicated multi-faceted government initiatives, and is directly applicable to the task of designing and costing an abatement program that will effectively address the opioid crisis in the Counties. *Id.* Defendants' bare assertions that Liebman does not have "any experience with the task at hand" should be given no weight. Ds' MOL, p. 23.

Finally, Defendants argue that Liebman's cost estimates are unreliable because he purportedly did not "follow many 'best practices' as outlined by government agencies that are charged with projecting costs." *Id.* at p. 19. Specifically, Defendants state that Liebman did not follow "generally accepted practices in his field" because he did not conduct an uncertainty analysis or a cost-benefit analysis. *Id.* at p. 24.[62] However, as Liebman explained in his deposition, it is not appropriate to perform Monte Carlo analyses or other types of statistical uncertainty analyses where there are no available data from which "to draw a probability distribution."[63]

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61 Accordingly, Defendants' cases are inapposite. *See infra* at fn.76; *Johnson v. Manitowoc Boom Trucks, Inc.*, 484 F.3d 426, 427, 435 (6th Cir. 2007) (for almost thirty years, expert had "been employed exclusively as an engineering 'consultant' and ha[d] testified in a wide range of design defect cases"; " '[T]he expert's opinions were conceived, executed, and invented solely in the context of this litigation.' ") (citation omitted); *Smith v. Rasmussen*, 57 F. Supp. 2d 736, 766 (N.D. Iowa 1999) (finding expertise was "premised solely or primarily on a literature review"). *In re Welding Fume Prod. Liab. Litig.*, No. 1:03-CV-17000, 2005 WL 1868046 (N.D. Ohio Aug. 8, 2005), is also inapposite, as it addresses experts "opin[ing] about areas outside of [their] particular expertise." *Id.* at *6. Liebman's testimony concerns only matters squarely within his expertise, and he has relied on other experts' "information or work" only where "it is of the type normally relied upon by [Liebman] in the course of his work." *St. Paul*, 2005 WL 1168380, at *3.

62 Each of the specific items Defendants list relate to an uncertainty analysis or cost-benefit analysis. *See* Ex. C (GAO Guide) at p. 10.

63 Lieb. Dep., Dkt. # 1966-5 at 127:8-23. For example, the Office of Management and Budget did not, during Liebman's tenure there, use statistical tools to perform an uncertainty analysis for the Affordable Care Act, one of the most substantial and costly pieces of federal legislation ever proposed. *Id.* at 127:15-18. Similarly, the GAO routinely does not present uncertainty analyses in the budgets it prepares. *See* GAO, Report to the Congress, State

Liebman did identify sources of uncertainty in his cost estimates, including the OUD rate and future treatment needs, and to capture this uncertainty presented a range of costs for the abatement plan with the "base case" reflecting his best estimate of future costs.[64] As Liebman testified, in this way, sensitivity analyses can serve some of the same functions as a statistical uncertainty analysis. Lieb. Dep., Dkt. # 1966-5 at 124:11 – 125:12, 208:16 – 209:12. He also built into the abatement plan a mechanism for gathering data on the progress of the abatement plan and using that data to refine the plan over time.[65] If it would be helpful to policymakers, and if sufficient data become available in the future "to draw a probability distribution," Liebman could perform a statistical uncertainty analysis at that time. Lieb. Dep., Dkt. # 1966-5 at 127:8-15.

Defendants are simply wrong when they assert that Liebman did not follow best practices. The methodological framework he used to estimate funding needed for the plan are described in the OMB, GAO, and Congressional Budget Office documents cited in his report. Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 28. Those documents describe analytical tools and processes to be applied to reliably estimate costs and project budgets, but, as explained above, not every tool is applicable in every situation. For example, Defendants also complain that Liebman did not perform a cost-benefit analysis (Ds' MOL, pp. 24), but such an analysis is not relevant in the present context. The purpose of a cost-benefit analysis is to allow policymakers to choose between competing priorities in the context of limited public funds. Here, if Defendants are found liable for the cost of abating the

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& Local Governments' Fiscal Outlook: 2018 Update (December 2018), *available at* https://www.gao.gov/assets/700/696016.pdf (last visited July 30, 2019).

64 Lieb. Supp. Rep., Dkt. # 2000-12 at ¶ 94; Lieb. Dep., Dkt. # 1966-5 at 124:11-16.

65 Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 85-91; *see also* Ex. C (GAO Guide) at p. i ("The management of a cost estimate involves continually updating the estimate with actual data as they become available, revising the estimate to reflect changes.").

epidemic, they will be obligated to pay those costs, irrespective of whether they would prefer to spend the funds on something else.[66]

2. The Facts and Data upon Which Alexander Relies Are Sufficiently Reliable

Alexander's testimony also is the product of reliable principles and methods that he reliably applied to the facts of this case. Defendants primarily criticize Alexander's use of a Markov model to estimate abatement costs. Ds' MOL, pp. 25-29. As Alexander explained, "[a] Markov model is a mathematical model that allows for one to examine dynamic processes within a population." Alex. Dep., Dkt. # 1956-4 at 102:25 – 103:3. It "describes the dynamic movement of populations through different phases of the opioid epidemic, such as medical use, non-medical opioid use, OUD, overdose and death."[67] The model is based on publicly-available data[68] and "the inputs of a number of renowned modeling experts[,]" with whom Alexander consulted when preparing "the component of [his] report that's focused on the Markov model."[69]

Defendants claim Alexander (i) has no prior experience with Markov models, (ii) "conceived of his model in the context of this litigation[,]" and (iii) could not "offer any scientific basis" for why he used the model in this case. Ds' MOL, pp. 25-26. Not so. Although Alexander had not personally used the model prior to this case, he learned about the methodology during his training and early career, outside of the context of this litigation.[70] Alexander explained that this type of

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66 If, ultimately, there are insufficient funds to fully fund the abatement plan, a cost-benefit analysis could be useful at that point to determine relative funding levels for the nineteen categories that comprise the abatement plan.

67 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 13; s*ee also id.* at Appx. A, p. 1.

68 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 13 ("It is based on publicly available data from the United States Census Bureau, [CDC], [NSDUH], National Health and Nutrition Examination Survey (NHANES), and National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), as well as information derived from the peer-reviewed literature and other models of the opioid epidemic.").

69 Alex. Dep., Dkt. # 1956-4 at 104:15 – 105:10; *see also id.* at 42:16-18.

70 Alex. Dep., Dkt. # 1956-4 at 106:18-24 ("My learning about this methodology has occurred through working with the [renowned modeling experts] that I identified as well as working previously with health economists, primarily at the University of Chicago during my training there, and during my subsequent faculty life there.").

model is "useful for both epidemiology and economics." Alex. Dep., Dkt. # 1956-4 at 106:4-7. He considered using other models,[71] but ultimately determined the Markov model was best, explaining:

> It's a useful tool in this instance because of its ability to allow for one to follow populations over time and through different transition states. *And I think this is the reason that two or three prior models of the opioid epidemic that have been published have also used Markov models and upon which our model was based.*[72]

Indeed, Alexander explained how his model improved upon the models used in prior papers regarding the opioid epidemic. Alex. Dep., Dkt. # 1956-4 at 113:4-25, 216:13 – 217:4.

Moreover, Alexander's model was informed by his own extensive pre-litigation research regarding the opioid epidemic,[73] as well as his experience and training.[74] Alexander did not develop his abatement opinions "expressly for purposes of testifying[;]" rather, his opinions grow "naturally

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71 Alex. Dep., Dkt. # 1956-4 at 108:7-18 ("So we considered just a flat spreadsheet, you know, just a flat Excel file, rows and columns. We considered a decision tree, we considered a systems dynamics models, and we considered a Markov model.").

72 Alex. Dep., Dkt. # 1956-4 at 107:7-18 (emphasis added), 107:19 – 108:6. *See also* Ex. B (2018 Pitt Article) at 1394-95 ("We developed a dynamic compartmental model, dividing the population into compartments that individuals flow between according to parameters that describe the dynamics of opioid prescribing and addiction. This is common for evaluating the spread of contagious diseases and appropriate for models the opioid epidemic because it allows for dynamic modeling of addiction incidence to reflect the changing number of prescription holders.") (internal footnotes omitted).

73 *See, e.g.,* Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 10, 15; Alex. Dep., Dkt. # 1956-4 at 195:7-12, 197:15 – 198:9, 236:18-22. Defendants attempt to minimize Alexander's experience with opioid-related matters (Ds' MOL, p. 5), but in actuality, although he does "not specialize in the care of patients with [OUD]," Alexander does "have patients in [his] practice with OUD who [he] co-manage[s] with addiction specialists, and [he] care[s] for patients who have lost family members from fatal opioid disorders." Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 2. More importantly, "[d]uring the past eight years, [he has] devoted much of [his] professional time to addressing the opioid epidemic." *Id* at ¶ 4. He has: (i) "served as one of three Co-Editors of monographs issued by the Johns Hopkins Bloomberg School of Public Health providing comprehensive, concrete, evidence-based solutions to the epidemic[;]" (ii) testified before Congress; (iii) "briefed groups such as the National Governors Association, Congressional Black Caucus, Centers for Medicare and Medicaid Services and the National Academy of Science, Engineering and Medicine[;]" (iv) "participated in efforts to improve the safe use of prescription opioids within Johns Hopkins Medicine and other health systems[.]" (v) "published extensively about opioids, including analyses of prescription opioid use in the United States as well as evaluations of the structure and impact of regulatory and payment policies on opioid prescribing, dispensing and utilization[;]" (vi) "co-authored policy perspectives and a widely referenced public health review of the epidemic[;]" and (vii) "led or participated in teams examining many other facets of the crisis." *Id.* at ¶¶ 4-6 (internal footnotes omitted). The studies Alexander has performed "have used a variety of epidemiologic methods, including: descriptive analyses based on cross-sectional, serial cross-sectional and period prevalence designs; retrospective cohort studies using difference-in-difference, interrupted time-series, comparative interrupted time-series and time-to-event designs; prospective cohort studies; qualitative assessments using grounded theory; and narrative and systematic reviews." *Id.* at ¶ 7.

74 *Id.* at ¶¶ 1-8, 10-15; Alex. Dep., Dkt. # 1956-4 at 23:23 – 24:1, 67:11-13, 130:6 – 132:18.

and directly out of research [he has] conducted independent of the litigation."[75] Of course, even assuming, *arguendo*, that his opinions had been developed solely in the context of litigation, this is not dispositive of the reliability inquiry. The cases cited by Defendants merely stand for the proposition that this is one factor of many that a court may consider when determining reliability.[76] But even under those circumstances, experts can satisfy the reliability prong by "explain[ing] precisely how they went about reaching their conclusions and point[ing] to some objective source—a learned treatise, the policy statement of a professional association, a published article in a reputable scientific journal or the like—to show that they have followed the scientific method, as it is practiced by (at least) a recognized minority of scientists in their field."[77] As discussed above, Alexander has done that here. Clearly, he is no "expert for hire."[78]

Defendants next claim that Alexander's Markov model has numerous limitations that render it unreliable. Ds' MOL, pp. 25-29. Specifically, they complain that his model is dependent on certain assumptions about costs, populations, and transition probabilities. Alex. Dep., Dkt. # 1956-4 at 109:6-17. But a model, by its nature, is a simplification of reality. The fact that the Markov model Alexander used has some limitations does not render it unreliable, so long as it is reliable for

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75 *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995) ("*Daubert II*") ("That the testimony proffered by an expert is based directly on legitimate, preexisting research unrelated to the litigation provides the most persuasive basis for concluding that the opinions he expresses were 'derived by the scientific method.' ").

76 *See Newell Rubbermaid, Inc. v. Raymond Corp.*, 676 F.3d 521, 527 (6th Cir. 2012) (noting courts "may" consider whether an expert's opinion was prepared solely for litigation when deciding whether to exclude the expert's testimony); *Daubert II*, 43 F.3d at 1316-17 (noting that "[e]stablishing that an expert's proffered testimony grows out of pre-litigation research" is one way to satisfy the reliability prong of Rule 702). Defendants' cases are also factually distinguishable. *See Newell*, 676 F.3d at 528 (court did not appear entirely convinced by defendant's argument that plaintiff's expert "was not qualified to serve as an expert because he [wa]s employed as a forensic engineer, meaning that his work product was necessarily prepared for litigation[,]" but ultimately did not decide the issue because expert was properly excluded on other grounds); *Daubert II*, 43 F.3d at 1319 (experts never "explain[ed] the methodology [they] used to reach their conclusions nor point[ed] to any external source to validate that methodology").

77 *Daubert II*, 43 F.3d at 1319-20. *See also Johnson*, 484 F.3d at 435 (even a "quintessential expert for hire" is not "accorded a presumption of *unreliability,* but the party proffering the expert must show some objective proof . . . supporting the reliability of the expert's testimony").

78 In fact, before this case, Alexander had never been hired as a litigation expert. Alex. Dep., Dkt. # 1956-4 at 37:24 – 38:5. The same is true for Liebman. Lieb. Dep., Dkt. # 1966-5 at 15:17-19.

the purpose for which it was built.[79] The assumptions Alexander used are not based on mere "subjective belief or unsupported speculation." *Daubert*, 509 U.S. at 590. Rather, as he explained in his deposition, these "parameters and estimates are based on a combination of our best judgment, [his] expertise, review of scientific information, and the experience of others that provided input as [he] developed these estimates."[80] Accordingly, Alexander's methodology is reliable.[81]

Defendants criticize Alexander's model for not encompassing all possible "transitions," asserting that Alexander "agreed that the model does not account for the 83% of the 11.4 million people who reported opioid misuse in 2017 who indicated that they bought, were given, or stole opioids from [other] individuals who, in turn, had been prescribed those drugs by a licensed prescriber." Ds' MOL, p. 27. But Alexander actually *disagreed* with Defendants' assertion:

> Q: And so my question is: Your model does not account for that 83% of people in 2017 who reported opioid misuse and bought, were given, or stole opioids from individuals who were, in turn, prescribed these drugs by a licensed prescriber, correct?
>
> A: *I do not believe that's correct*. . . . [W]e do not have a direct transition probability over time from the general population to nonmedical use of opioids. We *do consider* the significant number of people that use opioids nonmedically and our model *does allow*

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79 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 13 ("While no model can perfectly capture all of the dynamic and complex processes of the epidemic, developing and analyzing formal models forces one to make assumptions explicit, and allows for these assumptions to be evaluated in light of the best available data. Such models provide policy-makers with information about the potential public health value of different interventions, and they allow for estimations of the costs of interventions[.]").

80 Alex. Dep., Dkt. # 1956-4 at 195:7-12, 197:15 – 198:9. *See also id.* at 174:21 – 175:19, 176:10 – 183:18, 194:9-18, 236:8-22; Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 1-8, 10-15, ¶ 177 ("I identified the potential components for each category, estimated the unit costs based on published literature, primary data sources and budgets of existing programs (e.g., per diem, per patient, etc.)[.]"), ¶ 178, and Appendix A, p. 1 ("Some of these parameters were directly taken from current research and data, some were calculated based on research and model calibration, and some are based on my expert opinion and model calibration . . . . The choice of the operative parameter value is driven by strength of evidence, appropriateness of parameter for the setting of the model, and model calibration.").

81 *See Scrap Metal*, 527 F.3d at 531-32 (expert's damages opinions admissible where he "offered a foundation for how and why he analyzed the data as he did[,]" and although defendant took issue with the factual basis of the expert's testimony, it did not claim that the expert's opinion was "entirely unsupported" or "that he merely pulled the numbers comprising his calculations out of thin air"); *In re Heparin Prod. Liab. Litig.*, 803 F. Supp. 2d 712, 738 (N.D. Ohio 2011) ("Courts have admitted expert testimony as reliable where experts extrapolate their opinions from their knowledge and experience combined with a review of the relevant scientific literature."), *aff'd sub nom. Rodrigues v. Baxter Healthcare Corp.*, 567 F. App'x 359 (6th Cir. 2014).

> for these individuals to use opioids nonmedically without having received a prescription first.[82]

In other words, the transition from the general population to nonmedical opioid use is subsumed within another transition probability in the model since how a person initiated usage is not important to estimating service level needs over time.

Defendants next criticize Alexander for not calculating a confidence interval for his cost estimates and not setting precision requirements for his model. Ds' MOL, pp. 27-28. They claim this renders his opinions unreliable, citing *Turpin v. Merrell Dow Pharm., Inc.*, 959 F.2d 1349 n.2 (6th Cir. 1992). But *Turpin*, in addition to being factually inapposite, does not stand for the proposition that confidence intervals or precision requirements are necessary to establish reliability under *Daubert*.[83] Moreover, in his deposition, Alexander explained that, while he did not have specific *a priori* precision requirements for his model,[84] he did take steps to ensure the reliability of his model,[85] including analyzing its sensitivity.[86]

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82 Alex. Dep., Dkt. # 1956-4 at 123:14 – 125:19 (emphasis added). *See also id.* at 127:4-21 ("Q: So in other words, in your model, the only way someone gets to nonmedical use of opioids is to first get a prescription for prescription opioids, correct? A: No. At the start of the model, the model runs through 10 or 15 years, and at the starting population of the model, there's 5 million individuals that have nonmedical use.").

83 In *Turpin*, a personal injury case, the Sixth Circuit analyzed whether the trial court erred in granting the defendant's summary judgment motion for lack of sufficient causation evidence. *Id.* at 1350. The plaintiffs offered expert testimony based entirely on animal studies and criticisms of the human epidemiological studies relied on by the defendant. *Id.* at 1353. When discussing the defendant's epidemiological studies, *by way of background*, the court provided "an extended explanation of the complex statistical methodology used in such epidemiology studies, including the use of such terms of art as the . . . 'confidence interval[.]' " *Id.* The court noted that "[t]o gauge the reliability and credibility of their reports when repeated randomly, *statisticians* use a device known as the *confidence interval*[,]" which "is not a 'burden of proof' in the legal sense[but] rather . . . is a common sense mechanism upon which *statisticians* rely to confirm their findings and to lend persuasive power within their profession." *Id.* at 1353 n.1 (emphasis added). At no point did the court state that an expert's opinion *must* include a confidence interval to be reliable; in fact, the court did not even conduct a *Daubert* analysis in that case. *Id.* at 1349-61.

84 Alexander noted that one typically uses precision requirements "[w]hen conducting hypothesis testing," but emphasized that he was "not conducting hypothesis testing here." Alex. Dep., Dkt. # 1956-4 at 305:14-23, 306:12-13.

85 Alex. Dep., Dkt. # 1956-4 at 302:2 – 303:1 ("I think as I spoke before, ultimately the model is calibrated, and those calibrations are one of the principal methods that we use to examine and that one uses to exam[ine] the adequacy of the model. And in this instance, I calibrated the model in order to fit it as best I could to a variety of parameters that I had the greatest confidence in. And then we assessed the – you know, we assessed the quality of the model in many ways."), 303:5 – 304:5 ("[T]he overall fit and quality of the model is based on many different factors. . . . And so there's not one single parameter that we say we need to be able to estimate overdose deaths plus or minus 5% or this model is no good. The answer is no, there's no single factor – there's no single a priori requirement for a given

Defendants argue that the "lack of reliability" of Alexander's model is demonstrated by the fact that it overestimated the rate of OUD as compared to the OUD rates reported in the NSDUH and claimed Alexander "could not explain what was done to remedy this[.]" Ds' MOL, p. 28 n.12. But in fact Alexander explained that the NSDUH data had its own shortcomings and that his model was more appropriately calibrated to produce reliable results.[87] Notably, after criticizing Alexander's model for its inconsistency with NSDUH data, Defendants then turn around and criticize Alexander for relying on NSDUH population data at all because of the very shortcomings that accounted for that inconsistency.[88] Defendants note that Alexander acknowledged that data "does not capture well individuals who may be institutionalized, individuals who may be in jail or in long-term care facilities, individuals who are homeless, nor does it capture individuals that may have a lifetime history of [OUD] but not active or past-year [OUD][.]"[89] But they critically omit the next sentence of Alexander's testimony: "And this is a difference and an improvement of our model compared with others, because our model does account for the 2.5 to 3 million people that may have lifetime use of [OUD] but not past-year [OUD]." Alex. Dep., Dkt. # 1956-4 at 162:13-18.

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component because there are, you know, dozens of parameters and a dozen or more boxes. . . . [T]here are a number of ways that – there are a number of steps I took and that one takes in order to assess and ensure the quality of a model such as the model that we've built."), 304:22 – 305:9 ("[W]e include sensitivity analyses, and these have been provided as part of the model. And what these analyses do is they assess the robustness of the model. They assess whether or not, when you change one parameter, an outcome that one cares about changes plus or minus 5% or not."), 306:20-24 ("There was no single parameter that I identified a priori as we must be within X percent of this estimate for this value, so that's – *that's not how these models are generally built*.") (emphasis added).

86 Alex. Dep., Dkt. # 1956-4 at 201:5-13, 214:7-21, 305:1-9.

87 Alex. Dep., Dkt. # 1956-4 at 159:7-21 ("Well, I mean, this model has dozens of moving parts, and overall, I was pleased with the – and felt satisfied for the purposes of this report in the calibration that we were able to achieve. [OUD] is – you know, there are a number of shortcomings in the ways that [OUD] is captured and defined in the NSDUH, and so we – so I feel that this is – you know, so we focused on calibrating the model most tightly to more recent years and to outcomes and populations such as the population with the total population and the population with overdose that we had the greatest confidence in."), 160:3-22, 162:4-18; Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 18.

88 Defendants also argue that the CDC data Alexander relies on has its own limitations. Ds' MOL, p. 28. But as discussed below, this criticism merely goes to the weight of Alexander's opinions; it does not warrant the exclusion of his testimony. *Infra* at fn.95.

89 Ds' MOL, p. 28 (quoting Alex. Dep., Dkt. # 1956-4 at 162:4-12).

Defendants also criticize Alexander for purportedly including all drug court participants in his estimate of drug court service level needs, instead of including only opioid users. Ds' MOL, pp. 28-29. Specifically, Alexander used 120,000 as his drug court population parameter.[90] He based this number on a fact sheet from the Office of National Drug Control Policy that estimated that 47% of counties in the United States are served by drug courts and that those courts collectively serve approximately 120,000 Americans per year.[91] Although the ONDCP's 120,000 figure included non-opioid drug court participants, Alexander determined that it was a reasonable number to use in his forward-looking abatement plan given his view that drug courts should be greatly expanded to address unmet need, as well as the fact that the share of opioid-related drug crimes has increased significantly since the publication of the report.[92] He based this determination on his judgment, experience, review of the scientific literature, and the experience of his team members.[93] This is equally true for all the assumptions Alexander made for purposes of his model.[94]

That there may be some limitations to Alexander's model does not render his opinions unreliable. Even if Defendants' criticisms of Alexander's opinions were valid (which they are not),

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90 Alex. Dep., Dkt. # 1956-4 at 219:2-8.

91 Ex. D (ONDCP Fact Sheet) at p. 1; Alex. Dep., Dkt. # 1956-4 at 219:19 – 220:5, 232:21 – 234:1.

92 Alex. Dep., Dkt. # 1956-4 at 222:1-15, 225:16 – 226:13, 227:15 – 228:4 ("My goal is in identifying national needs, and specifically with respect to drug courts, I think that these should be forward looking and based not just on the number of current utilizers that have opioid-related encounters with the criminal justice system, but also the number that – the unmet need and the unfulfilled need. So I think that's very important, and I do note here this – on page 27, it appears to me that these data were derived from 2008, and, of course, there's been enormous changes since 2008 in terms of morbidity and mortality from the epidemic."), 229:9-23, 234:4-18, 235:7-24 ("Well, if we use the numbers from this report and we assume that if there are 120,000 in drug courts in half of the counties because half of the counties don't have them, and so we double that to assume that if every county had them and they were operating at the same capacity, we'd have about 240,000, then our estimate of 120 would represent that – an assumption that about half of current – current drug court participants are utilizing the drug courts because of opioid-related offenses."), 237:3-7, 237:14-19, 238:5 – 239:1.

93 Alex. Dep., Dkt. # 1956-4 at 235:25 – 236:22; Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 1-8, 10-15 and pp. 60-101.

94 Alex. Dep., Dkt. # 1956-4 at 174:21 – 175:19, 176:10 – 183:18, 194:9-18, 195:7-12, 197:15 – 198:9, 236:8-22; Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 1-8, 10-15, 177-178 and Appendix A, p. 1.

these criticisms merely go to the weight of Alexander's opinions; they do not warrant the exclusion of his testimony.[95] The cases cited by Defendants are entirely distinguishable.[96]

3. Liebman's and Alexander's Use of Different Timeframes Does Not Render Their Opinions Unreliable.

Defendants claim that Liebman and Alexander "could not even agree upon an appropriate timeframe for implementing their respective plans – thus opening the door for even more confusion, as opposed to consistent reliable expert testimony." Ds' MOL, p. 18. Defendants are ignoring the fact that the reports of Liebman and Alexander serve two separate purposes. As discussed above, Alexander designed a national abatement plan, while Liebman designed a plan tailored to the Counties. *Supra* at p. 3. That they used different time periods is irrelevant and certainly will not confuse this Court, who is the trier-of-fact with respect to the abatement remedy. *Supra* at pp. 1-2.[97] Moreover, although Alexander calculated abatement costs using a ten-year

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95 *See Andler v. Clear Channel Broad., Inc.*, 670 F.3d 717, 729 (6th Cir. 2012) ("Selby's testimony involves a degree of speculation, as does all analyses of future damages, but not unrealistic speculation. The factual basis for using full-time averages in Selby's pre-injury earning capacity calculation may not be particularly strong, but 'it is not proper for the Court to exclude expert testimony 'merely because the factual bases for an expert's opinion are weak.' ' ") (citations omitted); *Scrap Metal*, 527 F.3d at 530-32 ("The question of whether [the expert's damages] is accurate in light of his use of [certain] data goes to the weight of the evidence, not to its admissibility, and the district court appropriately passed the torch to the jury to make this determination."); *McLean v. 988011 Ontario, Ltd.*, 224 F.3d 797, 801 (6th Cir. 2000); *Heparin*, 803 F. Supp. 2d at 733–34; *KSP*, 2008 WL 182260, at *7 ("Issues regarding the data that Ernst used in criticizing the Deloitte report may be resolved through cross-examination, particularly in light of the fact that this is a bench trial.").

96 *Supra* at fn.48; *Asad*, 314 F. Supp. 2d at 734 (environmental scientist's opinion regarding plaintiff's CO exposure levels was unreliable because scientist "admit[ted] that he d[id] not know [plaintiff's] level of exposure . . . and that his opinion about her exposure level [wa]s not scientifically-based" and "while he testified that his opinion rested largely on [plaintiff's] alleged symptoms, he simultaneously admitted that determining whether [her] expressed symptoms were consistent with exposure to CO was outside his area of expertise"); *Goebel v. Denver and Rio Grande W. R.R. Co.*, 215 F.3d 1083, 1088 (10th Cir. 2000) (district court erred in admitting expert testimony where there was no indication in the record that it "ever conducted any form of *Daubert* analysis whatsoever" and it was unclear whether the court's determination that "there was 'sufficient foundation' for the testimony to go to the jury" was based on "the professional credentials of the witness as opposed to assessing the reasoning and methodology relied upon by the witness"; the appellate court "express[ed] no opinion on whether [the expert's] testimony was admissible under *Daubert* or *Kumho*"); *Foust v. Metro. Sec. Servs., Inc.*, 3:10-CV-340, 2011 WL 4832570, at *4-5 (E.D. Tenn. Oct. 12, 2011) (defendant did not challenge expert's testimony on the basis of speculation, but rather claimed that his calculations involved "simple mathematics" which did not require the testimony of an expert; the court disagreed and denied defendant's *Daubert* motion).

97 Even if the abatement models of Liebman and Alexander were inconsistent with each other, which they are not, this would not warrant exclusion of their testimony. *See McLean*, 224 F.3d at 804.

timeframe, he acknowledged that "the legacy of the opioid epidemic will endure far beyond that" and "[p]revention of new cases of addiction will require long-term investments in research and training to transform the culture of pain treatment in America."[98]

4. Any Lack of Testability Does Not Render Liebman's and Alexander's Opinions Unreliable.

Defendants contend Liebman's and Alexander's opinions are unreliable for lack of testability. Ds' MOL, pp. 30-31. As a preliminary matter, "[t]he inability to test opinions based on qualitative data and the lack of peer review does not automatically render them unreliable, especially in cases such as this one where the nature of the expert testimony is not normally subject to the type of scientific testing initially contemplated by *Daubert*." *Ohio Org.*, 2016 WL 8201848, at *2.[99] Regardless, Defendants' complaints are without merit.

With respect to Alexander, Defendants briefly complain that he had no specific metric by which to test the success of his proposed abatement plan. Ds' MOL, p. 30.[100] However, Alexander's proposed abatement programs are evidence-based and there is scientific consensus that

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98 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 30. Given the need for such long-term investments, Liebman reasonably chose to use fifteen years for his Counties-specific abatement plan. Lieb. Dep., Dkt. # 1966-5 at 113:14-20 ("It seemed clear that it was going to take, well, the resources and attention for at least that long to be able to make the progress that needs to be made against the crisis."), 114:1-7, 174:8-13, 175:6-9, 178:11-24, 290:14 – 292:5 ("[F]rom reading the literature on abatement plans and from talking to both national and local experts, I came to the conclusion that it was going to take sustained effort over a 15-year period to abate this crisis."), 292:17-19 ("I give a 15-year plan. I would expect that we need to continue to spend resources on this beyond 15 years."), 293:1 – 295:19, 297:3-13, 353:14-23.

99 "The test of reliability is 'flexible,' and the *Daubert* factors do not constitute a 'definitive checklist or test,' but may be tailored to the facts of a particular case." *Scrap Metal*, 527 F.3d at 529 (quoting *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 150 (1999)). Indeed, the Sixth Circuit has "recognized that the *Daubert* factors 'are not dispositive in every case' and should be applied only 'where they are reasonable measures of the reliability of expert testimony.' " *Id.* at 529 (citation omitted). "The questions of what factors to apply and what conclusion to draw about an expert's reliability are entrusted to the district court's discretion." *United States v. Mallory*, 902 F.3d 584, 593 (6th Cir. 2018).

100 They also criticize Alexander for not developing "a specific method of testing his model to ensure reliability." *Id.* This argument is nothing more than a rephrasing of Defendants' contention that Alexander's model is unreliable because it is based on "assumptions." *Id.* at pp. 30-31. This argument is without merit for the reasons discussed above. *Supra* at § I.B.2. Moreover, Alexander explained "that the estimates of the magnitude of the interventions that we assessed were built upon and built from estimates that have been assessed in other models that have been performed." Alex. Dep., Dkt. # 1956-4 at 153:23 – 154:3. Additionally, his "model provides a framework that would allow for one to test different – different trajectories of the epidemic." *Id.* at 155:15-18. *See also id.* at 331:22-24 ("[O]ur model also allows for different assumptions about the effects of interdiction to be empirically tested.").

such programs work to reduce mortality, morbidity, and other negative outcomes of the opioid crisis.[101] Alexander also explained that more precise tests of the effectiveness of an abatement program are not feasible.[102] Defendants claim Alexander testified that "he believed the only test of success would be whether it 'lead[s] to large reductions in opioid-related morbidity and mortality.' "[103] But Defendants not only twist Alexander's words,[104] they completely ignore Alexander's other testimony explaining that the success of his plan can indeed be tested by comparison with other published models.[105]

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101 Alex. Supp. Rep., Dkt. # 2000-2 at ¶¶ 11-12, 14 ("There is widespread consensus in both clinical and public health communities that the abatement measures identified in this report are effective in reversing opioid-related morbidity and mortality. The measures discussed herein have been put forth by numerous consensus panels, task forces, professional society organizations and others."), ¶¶ 15, 25-29, 183, 187; *see also id.* at p. 57 ("There is remarkable consensus among public health experts regarding the abatement remedies outlined above, because they rest upon a large evidence-base, and thus action can be informed by the evidence."); Alex. Dep., Dkt. # 1956-4 at 19:19-23, 64:10-15, 80:25 – 81:7, 101:25 – 102:4, 352:19-24.

102 Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 183 ("Theoretically, it would be of interest to have randomized experiments assessing the effectiveness, and comparative effectiveness, of different interventions to reduce opioid-related morbidity and mortality. However, *such investigations are impractical, and often, unethical as well.*") (emphasis added).

103 Ds' MOL, p. 30 (quoting Alex. Dep., Dkt. # 1956-4 at 352:19-25).

104 Alex. Dep., Dkt. # 1956-4 at 352:7 – 353:11 ("Q:… You talked about the abatement of the epidemic or the crisis. As part of your opinion, do you have a measure by which you were going to – or propose to determine success of your abatement program? In other words, I'm used to dealing with environmental cases where you have a groundwater cleanup, say, and there are defined sets of things that need to be done and that's how you measure success. Do you have an opinion about that for your abatement program? A: The interventions that I've proposed work and there's consensus about that, and if they're implemented in a coordinated fashion, I believe they will lead to large reductions in opioid-related morbidity and mortality. I've not developed a specific – and I also emphasize in my report the importance of surveillance and local leadership and ongoing evaluation of abatement programs. So if you're asking if there's a concrete number that I have where I would say, well, we've been successful or not successful based on achieving X, I don't have a single number. I think communities need to develop these programs and their evaluation metrics as well.").

105 Alex. Dep., Dkt. # 1956-4 at 307:16 – 308:8 ("[I]n our model we include an entire tab that includes output with our having assessed different interventions, and, in fact, the estimates that we provide for the number of intervention – for the number, for example, of overdose deaths that we believe could be achieved over ten years is – is similar in magnitude to those estimated by other models that have been published. . . . And so we use both an understanding of the development of the model, the calibration of the model, and then the concordance of the model with other published models as some of many measures to understand overall whether we believe the model is performing well or not."), 354:5 – 355:12 ("Q:…. I'm just exploring whether or not there are ways that you are providing as part of your opinion that are going to measure by actual metrics the way in which there is a success or not with those programs. A: Yeah. Q: And my understanding is that you're saying you do not have that as part of your plan, correct? A: No, I would not say that. I think there are – I speak in my report to the return on investment, so I speak in my report to the – to the – what we know about some of the economics of these interventions in terms of their worth, their return on investment. We also in the Markov model provide estimates for the magnitude of reductions that we believe can be achieved in ten years with coordinated comprehensive intervention of these programs. These estimates are in line with those of other estimates that have been provided by other teams using

Defendants also conflate the testability of Liebman's and Alexander's opinions with the issue of how progress under the abatement plan will be monitored in the future. Ds' MOL, p. 30. These are entirely different issues. Liebman built into the abatement plan tracking and "re-engineering" systems, so that the Counties will be able to monitor progress abating the epidemic and make adjustments to the plan as needed. Lieb. Supp. Rep., Dkt. # 2000-12 at ¶¶ 85-91. While the precise contours of the epidemic in the future are not known, "[t]here is widespread consensus in both clinical and public health communities that the abatement measures identified [by Alexander and Liebman] are effective in reversing opioid-related morbidity and mortality." Alex. Supp. Rep., Dkt. # 2000-2 at ¶ 14.

Finally, Liebman's and Alexander's opinions are entirely distinguishable from the experts' opinions that were deemed unreliable in *Oddi v. Ford Motor Co.*, 234 F.3d 136 (3d Cir. 2000). Ds' MOL, p. 31. In *Oddi*, which involved a product-liability action arising out of a truck accident, the plaintiff retained an engineer to offer expert testimony that the plaintiff's injuries were caused by the truck's defective design. 234 F.3d at 141. The defendants moved for summary judgment, arguing that the plaintiff could not establish a *prima facie* case for his claims because his proposed expert testimony was inadmissible under *Daubert*. *Id.* at 141-42. The district court rejected the expert's testimony, and the Third Circuit affirmed. *Id.* at 156. The court noted that other than meeting "*Daubert's* qualifications requirement, his expert opinion d[id] not satisfy *any* of the other considerations that determine admissibility." *Id.* (emphasis in original). In addition to not testing his theories for safer alternative designs,[106] his explanation of the purported defects in the truck were

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Markov models, and as one example that I think I gave earlier today, with investments in medication treatment and other services for individuals with [OUD], as well as fairly modest reductions in opioid prescribing and in naloxone distribution, I estimate that we could reduce as many as 40% of overdose deaths in the next ten years.").

[106] The expert had "posited two hypotheses" regarding safer alternative designs, but admitted he "never tested either hypothesis[,]" so "there was no way of knowing if his suggested alternative would better protect the cab's occupant, or if the suggested modifications were practical." *Id.* at 156, 158. In fact, he admitted that one of his alternative designs "could result in even greater injury . . . than the defendants' design." *Id.* at 157.

"undermined by the . . . laws of physics[.]" *Id.* at 157. He also "was unable to identify any particular literature that he relied upon to form any of the opinions contained in his preliminary report." *Id.* at 148. His expert opinion was "based on nothing more than his training and years of experience as an engineer." *Id.* at 158. In other words, the plaintiff failed to "establish the existence of [the expert's] methodology and research let alone the adequacy of it." *Id.* at 156.[107] It was for all those reasons that his testimony was excluded. *Id.* These are not the circumstances in this case, as explained at length above. *Supra* at § I.B.1-2. Liebman's and Alexander's opinions are reliable and should not be excluded.

II. KEYES' ABATEMENT OPINIONS ARE RELEVANT AND RELIABLE AND SHOULD NOT BE EXCLUDED.

Katherine Keyes is an Associate Professor of Epidemiology at Columbia University, specializing in substance use and substance use disorders epidemiology.[108] She issued a forty-page expert report in which she evaluated, in relevant part, the epidemiological evidence for procedures, policies, and programs that could reduce the opioid epidemic.[109] In this motion, Defendants argue that Keyes' abatement opinions are unhelpful and unreliable. Ds' MOL, p. 31.[110] As shown in detail below, Keyes has extensive experience analyzing epidemiological data to estimate prevalence and trends in opioid use and related disorders, and she employed standard epidemiological methodology in reaching her estimates. In addition, her report thoroughly explains the connection between her opinions and the facts of the instant case. Defendants' motion should be denied.

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[107] When asked to explain how he arrived at his conclusion, he "testified that he had 'studied' bread trucks but was not able to state if they were the same kind of truck that [the plaintiff] was driving or even if they were produced by the same manufacturer." *Id.*

[108] Report of Katherine Keyes, Dkt. # 2000-9 at p. 1. Keyes received a Master's degree in Public Health, as well as a Ph.D. in Epidemiology, from Columbia University. *Id.* She has published 225 peer-reviewed articles and book chapters, including 19 peer-reviewed articles on opioid use and related harms. *Id.* at pp. 1-2. Notably, she has published two textbooks on epidemiological methods, and she is supremely qualified to assess literature concerning opioid-related harm. *Id.* at p. 1.

[109] *Id.* at pp. 30-40; Katherine Keyes Dep. (04/29/19), Dkt. # 1963-17 at 373:20 – 374:6.

[110] Defendants have challenged other portions of Keyes' opinions in other motions.

A. Keyes' Opinions Are Helpful and Fit the Facts of the Case.

In her report, Keyes provided an aggregate population-level analysis of the effectiveness and impact of three interventions to ameliorate the opioid epidemic in the Counties: (1) MAT; (2) harm reduction through naloxone availability; and (3) synthetic opioid testing.[111] She provided a detailed review of the evidence supporting the effectiveness of each program and assessed the level of need for treatment and harm reduction in the Counties.[112] She also noted that, while Ohio currently implements some intervention programs, those programs do not obviate the Counties' present needs for abatement.[113]

Despite Keyes' meticulous analysis of the need for effective abatement policies and procedures in the Counties, Defendants complain that her opinions are unhelpful and do not fit the facts of the case because she: (i) outlines the evidence for three solid abatement programs rather than "evaluat[ing] the best policies and programs[;]" (ii) fails to provide an accounting of the cost associated with implementing such programs; and (iii) considers data regarding the Counties' EMS services in reaching her naloxone administration opinions. Ds' MOL, pp. 31-32. A close review of Defendants' specific criticisms reveals that these arguments miss the mark.

First, *Daubert* does not require an expert to evaluate only "the best" evidence; Keyes need only reach her conclusions "in a scientifically sound and methodologically reliable fashion."[114] As made clear in both her report and her deposition, Keyes purported to outline the epidemiological evidence for three effective abatement programs.[115] She selected those programs based on her

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111 Keyes Rep., Dkt. # 2000-9 at pp. 30-40; Keyes Dep., Dkt. # 1963-17 at 374:18-21.

112 Keyes Rep., Dkt. # 2000-9 at pp. 30-40.

113 *See id.* at p. 30 (noting data from Cuyahoga County medical examiner indicated no record in the prescription drug monitoring program for 52% of overdose decedents in 2016 and 29% of overdose decedents in 2017).

114 *Ruiz-Troche v. Pepsi Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 85 (1st Cir. 1998). *See also Deutsch v. Novartis Pharm. Corp.*, 768 F. Supp. 2d 420, 453 (E.D.N.Y. 2011) ("Under *Daubert*, an expert need not base his opinion on the best possible evidence, but upon 'good grounds, based on what is known.' ") (citation omitted).

115 Keyes Dep., Dkt. # 1963-17 at 366:2 – 368:1, 373:3 – 374:6, 376:10 – 377:4; Keyes Rep., Dkt. # 2000-9 at p. 30.

expert review of evidence that not only supported the programs' success, but also suggested an impact on the opioid epidemic specific to the Counties.[116] Keyes was not retained to identify only the best abatement programs or to provide an accounting of the costs required to satisfy the Counties' unmet needs. Ds' MOL, p. 32. It logically follows that her opinions are not unhelpful simply because she did not offer that information. *Supra* at p. 5.[117]

Defendants' criticism of Keyes for considering evidence of past naloxone distribution by EMS agencies in the Counties is also without merit. Contrary to Defendants' assertions, the absence of County-level EMS (*i.e.*, EMS run by the County governments) in no way undermines Keyes' estimate of the number of naloxone kits that are needed in the Counties. Keyes estimated the number of kits that should be provided to the community—opioid users, along with their non-using family members and friends—so that naloxone can be administered in case of overdose without the need to wait for first responders. Keyes Rep., Dkt. # 2000-9 at pp. 37-39. Specifically, she estimated that there are approximately 52,000 individuals in Cuyahoga County and approximately 11,500 individuals in Summit County "who are opioid dependent or regular users of opioids." *Id.* at pp. 38-39. She also estimated, based on General Social Survey data, that each of those individuals has "four individuals [in] their close social network members (including family and friends)[.]" *Id.*[118] Thus, her opinion that Cuyahoga County and Summit County require a minimum of 222,000 and

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116 Keyes Dep., Dkt. # 1963-17 at 367:12 – 368:1.

117 Defendants cite *Pride* (218 F.3d 566) and *Scrap Metal* (527 F.3d 517) for the proposition that these omissions render Keyes' opinions irrelevant. Ds' MOL, p. 32. But as noted above, *Pride* is inapposite because in that case the experts' opinions were excluded not because they were irrelevant, but because they were unreliable. *Supra* at fn.30. Similarly, in *Scrap Metal* the defendant did not even argue that the expert's testimony was irrelevant and the court ultimately affirmed the admission of the expert's damages opinions despite the defendant's criticisms of the underlying data and assumptions he used. 527 F.3d at 529-32.

118 In passing, Defendants complain of Keyes' use of General Social Survey data in formulating her naloxone distribution estimates. Ds' MOL, p. 8. Keyes applied data from a published academic article to estimate the number of family members of regular or dependent opioid users in the Counties that should have access to naloxone. *Id.* at pp. 38-39 & n.194. As explained in detail below, the accuracy of data underlying Keyes' reliable methodology goes to the weight of her opinion, not its admissibility. *Infra* at p. 39; *see also supra* at pp. 14 & fn.49, 25 & fn.81.

58,000 naloxone administration kits, respectively, which the Counties can ensure are distributed as needed, is fully supported by the number of opioid users and their family members in those Counties. *Id.*[119] Because Keyes used a reliable methodology to determine the number of naloxone kits that are needed, her opinion on that subject cannot be excluded merely because Defendants have raised questions about precisely how those kits would be distributed. Nor do their cavils undermine the abatement plan as a whole—once the proper number of naloxone kits to serve County needs can be acquired, the abatement plan can work out the details for how best to distribute them. This is an execution detail that has nothing to do with the *Daubert* inquiry.

Finally, the aggregate population-level analysis Keyes conducted to determine the necessity of effective biomedical treatment and harm reduction strategies to ameliorate the opioid epidemic is beyond the knowledge of an average layperson.[120] Given the efficacy of the abatement programs Keyes reviewed and her reliable application of the data to the facts of the case, her opinions are helpful and should be permitted.

B. Keyes' Opinions Are Reliable.

Next, Defendants contend that Keyes' opinions regarding MAT are unreliable. Ds' MOL, p. 32. Defendants particularly take issue with Keyes' reliance on the Degenhardt *et al.* (2011) study, a published systematic review and meta-analysis of 39 cohort studies analyzing the overdose mortality rate of individuals who were dependent or regular users of opioids.[121] A close review of Keyes' MAT opinions shows that she employed accepted epidemiological methodology in reaching her estimates, and such analyses are well within her expertise. In addition, Keyes' report explains how

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[119] *See also* Keyes Dep., Dkt. # 1963-17 at 382:17 – 383:2 ("I think the point that I was making in this paragraph is that naloxone is a really important program to reduce overdose. And however it is distributed is how it should be distributed."), 383:24 – 384:21 ("[W]hat I intended to convey in that paragraph was some assessment of the overall amount of distribution of naloxone that should occur."), 386:23 – 387:4.

[120] *See Von Wiegen v. Shelter Mut. Ins. Co.*, CIV.A. 5:13-040-DCR, 2014 WL 66516, at *5 (E.D. Ky. Jan. 8, 2014) (expert's testimony "helpful to the trier of fact" where it concerned matters that were "likely outside the understanding of the average lay person").

[121] Keyes Rep., Dkt. # 2000-9 at pp. 32-33; Keyes Dep., Dkt. # 1963-17 at 399:1-6.

she applied Degenhardt's findings to the facts of the instant case. Defendants' arguments should be rejected.[122]

As thoroughly explained in her report, Keyes relied upon the Degenhardt study to estimate the number of individuals in need of MAT in the Counties.[123] Degenhardt estimated an overall overdose death rate among regular or dependent users of opioids of 0.65 per 100 person-years of observation, with a confidence interval between 0.55 and 0.75.[124] Keyes utilized Degenhardt's rate and confidence interval to estimate the number of individuals in the Counties who are regular or dependent users of opioids by dividing the number of reported overdose deaths in the Counties by the rate of expected overdose deaths.[125] Because the Degenhardt study was published before the outbreak of fentanyl-induced deaths, Keyes input 2013 data indicating the number of overdose deaths in the Counties to reliably approximate the anticipated death rate prior to fentanyl deaths.[126] Thus, she noted that her estimates were conservative, as they were "based on data collected before

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122 *Cf. Hendrix ex rel. G.P. v. Evenflo Co.*, 609 F.3d 1183, 1196–97 (11th Cir. 2010) (courts "will admit expert opinions pursuant to *Daubert* that are supported by epidemiological studies, provided the expert explains how the findings of those studies may be reliably connected to the facts of the particular case") (internal footnote omitted). *See also Hendrian v. Safety-Kleen Sys., Inc.*, 08-14371, 2014 WL 1464462, at *3 (E.D. Mich. Apr. 15, 2014) (" '*Daubert* generally does not . . . regulate the underlying facts or data that an expert relies on when forming her opinion.' ") (quoting *U.S. v. Lauder*, 409 F.3d 1254, 1264 (10th Cir. 2005)); *supra* at pp. 14 & fn.49, 25 & fn.81.

123 Keyes Rep., Dkt. # 2000-9 at pp. 33-34; Keyes Dep., Dkt. # 1963-17 at 390:15-22.

124 Keyes Rep., Dkt. # 2000-9 at pp. 32-33.

125 Keyes Rep., Dkt. # 2000-9 at p. 33; Keyes Dep., Dkt. # 1963-17 at 400:15-19.

126 Keyes Rep., Dkt. # 2000-9 at p. 33. To illustrate, the Cuyahoga County medical examiner reported 340 overdose deaths in the County in 2013. *Id.* Based on an anticipated death rate of 0.65 per 100 person-years, Keyes estimated that the size of dependent or regular opioid users in Cuyahoga County was 52,307. *Id.* She further applied Degenhardt's confidence intervals of 0.55 to 0.75 per 100 person-years, resulting in an estimated 45,333 to 52,307 dependent or regular users of opioids in the County. *Id.* Thus, Keyes opined that between 45,333 and 52,307 individuals are in need of MAT access in Cuyahoga County. *Id.* at pp. 33-34. She similarly estimated the number of individuals in need of MAT access in Summit County, imputing the 75 overdose deaths published by the County medical examiner in 2013. *Id.* at p. 34. Based on an anticipated death rate of 0.65 per 100 person-years, Keyes estimated that the size of dependent or regular opioid users in Summit County was 11,538. *Id.* Applying the confidence intervals of 0.55 to 0.75 per 100 person-years, she estimated that there were 10,000 to 13,363 dependent or regular users of opioids in the County. *Id.* Thus, Keyes opined that between 10,000 and 13,363 individuals are in need of MAT access in Summit County. *Id.* at pp. 33-34.

the adulteration of the heroin and illicit prescription opioid supply with high potency synthetic opioids." Keyes Rep., Dkt. # 2000-9 at p. 34.

In framing Keyes' analysis as "complicated layered assumptions and extrapolations," Defendants entirely ignore her impressive qualifications and extensive expertise as an epidemiologist. Ds' MOL, p. 33. Indeed, Keyes testified that it is common methodology for epidemiologists to extract a population size from published estimates, and that she has particular expertise in utilizing the methodology she employed.[127] Keyes has extensive experience in the statistical analysis of epidemiological literature, and it is well within her specialized expertise to estimate a population size based on an estimate from a published epidemiological study.[128] Keyes' application of accepted methodology and her special expertise bolster the reliability of her estimations.[129]

Defendants further complain that Keyes did not conduct a statistical analysis for her opinion that the majority of the overdose deaths in the Degenhardt study were attributable to opioids. Ds' MOL, p. 33. But Keyes' report makes clear that the proportion of overdose deaths due to opioids was neither relevant to, nor included in, her estimation.[130] Thus, Defendants' argument is misplaced.

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127 Keyes Dep., Dkt. # 1963-17 at 405:2-11 ("The use of estimates is a very standard practice in the epidemiological literature. And to extract a population size based on published estimates is a methodology that's commonly used in epidemiology. So the methodology itself is something that . . . I have expertise in and that is commonly used in peer-reviewed literature."), 405:21 – 406:10.

128 Keyes Dep., Dkt. # 1963-17 at 40:13 – 41:4; Keyes Rep., Dkt. # 2000-9 at p. 2.

129 *See generally Deutsch*, 768 F. Supp. 2d at 457 (noting expert epidemiologist's "experience with designing and analyzing epidemiologic studies, and evaluating their sufficiency, supports the plausibility and reliability of his conclusions").

130 Keyes Rep., Dkt. # 2000-9 at p. 33 ("The proportion of deaths due to opioids is *not relevant for my estimation process*, however, given that I am estimating the pool of regular or dependent individuals who use opioids from the total for all overdose deaths. Nevertheless, we note that, *while not included in the estimation*, the majority of those overdose deaths are estimated to be due to opioids.") (emphasis added); Keyes Dep., Dkt. # 1963-17 at 408:2-12 (noting she input county-specific data for all overdose deaths to provide a comparable analysis to the Degenhardt study).

Nor do the limitations noted in the Degenhardt study render Keyes' opinions inadmissible.[131] The Sixth Circuit has established that the accuracy of data underlying an expert's reliable methodology goes to the weight of the evidence, not its admissibility. *See Scrap Metal*, 527 F.3d at 531. As noted above, Keyes employed a reliable and accepted methodology to the data in formulating her conservative estimates. Her methodology incorporated the confidence intervals provided in the Degenhardt study, which further supports the reliability of her estimations. *Id.* In addition, Keyes validated her methodology by applying it to the number of overdose deaths reported in the United States as a whole in 2013 and cross-checking her estimate with 2015 data provided by the NSDUH.[132] That calculation revealed that her estimate of regular or dependent users of opioids fell within the range of other national data. *Id.* Accordingly, any limitations of the Degenhardt study implicate the weight of the meta-analysis rather than its admissibility.[133]

Finally, Keyes' indisputably educated estimations and reliable methodology contrast sharply with those of the experts in the cases Defendants cite. Ds' MOL, p. 33.[134] Unlike the experts in

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131 Defendants mischaracterize statements Keyes made at her deposition in contending that she "offered a vague defense of the Degenhardt study." Ds' MOL, p. 33. Rather than addressing the Degenhardt study specifically, the quoted portion of Keyes' deposition was in response to the meaningfulness of aggregation in general. Keyes Dep., Dkt. # 1963-17 at 413:8-16 ("[I]t really depends on what the research question you're asking is and what you're using those data for, in terms of the meaningfulness of aggregation. Sometimes we want an aggregate estimate of the average risk of a certain outcome across the heterogeneous subgroups that make up the average risk."). Keyes further explained that the meta-analysis of the data aggregates the data across the studies, thereby lessening the limitations of any one particular study. *Id.* at 411:17 – 412:7.

132 Keyes Rep., Dkt. # 2000-9 at p. 33; Keyes Dep., Dkt. # 1963-17 at 404:7-14.

133 *See Powell v. Tosh*, 942 F. Supp. 2d 678, 717 (W.D. Ky. 2013) (finding expert's analysis reliable under *Daubert* because expert's "report identifie[d] the data he used from [the EPA] report, how he applied that data in his analysis, and the precise calculations he made to estimate the daily emissions rate of the Defendants' facilities based [on] the emissions factor data from the EPA report[,]" and noting that expert's data selection and use of data went to the weight of his testimony).

134 For instance, in *Power Integrations, Inc. v. Fairchild Semiconductor Intern., Inc.*, 711 F.3d 1348, 1372-73 (Fed. Cir. 2013), a patent infringement case, the expert relied upon an unauthenticated Internet press release reflecting worldwide sales data for Samsung's mobile phones to estimate the sales of power circuits, which Samsung incorporated into its mobile phone chargers. *Id.* at 1372. The court ruled that the expert's opinion was impermissibly based on "layered assumptions" because his analysis assumed: (i) that each of Samsung's phones shipped with a charger, even though the document he relied upon provided no indication that the shipped phones included chargers; and (ii) "not only that each of Samsung's shipments included a charger, but that each of these chargers incorporated an infringing power circuit." *Id.* Because the expert "had no way to distinguish between infringing and noninfringing chargers, . . . his assumption that all chargers incorporated an infringing power circuit was speculation." *Id.*

those cases, Keyes' opinions derive from her application of acceptable methodology to data from a scientific, peer-reviewed study, and her special expertise in the analysis of epidemiological literature and opioid-related harm substantiates the reliability of her opinions.

III. WEXELBLATT'S AND YOUNG'S ABATEMENT OPINIONS ARE RELEVANT AND SHOULD NOT BE EXCLUDED.

Scott Wexelblatt, a board-certified pediatrician, is the "Regional Medical Director of Newborn Services at Cincinnati Children's Hospital Medical Center and an Associate Professor in the Department of Pediatrics, University of Cincinnati College of Medicine." Report of Scott L. Wexelblatt, M.D., Dkt. # 2000-25 at ¶¶ 1, 11. He has extensive expertise regarding neonatal abstinence syndrome ("NAS"). *Id.* at ¶¶ 4-9. He opines on the effects of opioid addiction on pregnant mothers and infants, with a focus on NAS, and describes the programs and services needed to improve the outcomes for opioid-exposed mothers and infants in the Counties. *Id.* at ¶¶ 2, 15.

Nancy Young is the co-Founder and Executive Director of Children and Family Futures, "a non-profit organization with the mission of preventing child abuse and neglect, and improving safety, permanency, wellbeing, and recovery outcomes for children, parents, and families affected by trauma, substance abuse and mental health disorders." Report of Nancy K. Young, Ph.D., Dkt. # 2000-27 at p. 1. She has a Ph.D. in Social Work with a concentration in social policy. *Id.* Her professional career has focused on "the practice and policy issues affecting children of parents with substances use disorders, particularly those in child welfare systems, family courts that oversee cases of child abuse and neglect, and related service agencies." *Id.*[135] She opines on "the impact of

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Defendants also cite *Vincent v. United Techs. Corp.*, 854 F.2d 1318, 1988 WL 83389 at *1 (4th Cir. 1988) (per curium), a manufacturing defect case in which the experts' theory concerning a chain of events resulting in a helicopter crash "involved abundant speculation and little, if any, evidentiary support." *Id.* The Fourth Circuit affirmed the exclusion of the experts' opinions because "the experts' theory was so grounded in speculation that their theory supported pilot error, as well as negligence, as the cause of the crash." *Id.* That case did not involve an expert's extrapolation of data from a scientific, peer-reviewed study; it is simply inapt.

[135] *See also* Nancy K. Young Dep. (05/14/19), Dkt. # 1972-14 at 60:11-14, 76:12-14, 189:3-16. In addition to her work at the national level, for the past five years Young has worked in Ohio "on an initiative related to family treatment

the opioid crisis on child welfare systems and related agencies including recovery courts," and offers "her opinion on necessary and appropriate remedies in response to the opioid epidemic."[136]

Defendants argue that Wexelblatt's and Young's abatement opinions are irrelevant. But instead of challenging the actual abatement opinions these experts provide, Defendants focus almost exclusively on the opinions they did *not* provide.[137] Specifically, Defendants criticize Wexelblatt and Young for not: (i) connecting their abatement recommendations to specific Defendants or opining on whether Defendants caused the opioid epidemic;[138] (ii) estimating the cost of their recommendations; or (iii) explaining the technical logistics of how their recommendations should be implemented and by whom. Ds' MOL, pp. 9-10, 34-35. Defendants further criticize Wexelblatt for having "no knowledge as to how his proposals relate to what the Counties and other government entities are already are [sic] doing[,]" and Young for not opining on (i) "whether the Counties' previous actions to address the opioid epidemic were reasonable and timely[,]" or (ii) "the extent to which her recommendations pertain to the effects of opioid substance abuse of opioids [sic] versus non-opioid substance abuse[.]" *Id.* at pp. 34-35.[139] But, with two exceptions,[140] these experts were

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courts, and supervised the work of several staff members who have worked in Ohio on initiatives related to substance use disorders, child welfare and the courts." Young Rep., Dkt. # 2000-27 at p. 1.

136 Young Rep., Dkt. # 2000-27 at p. 1. *See also* Young Dep., Dkt. # 1972-14 at 64:17-22, 203:6-12, 261:14 – 262:3, 298:10-17.

137 Their only criticism of an opinion actually provided by one of these experts is that "Wexelblatt offered no evidence or citations to support why he chose [the] particular [abatement] recommendations [set forth in his report]." Ds' MOL, p. 9. This assertion is wholly without merit, as explained in further detail below.

138 Defendants also criticize Wexelblatt for having "no opinion about the cause of the 'opioid crisis' other than his understanding that the levels of prescriptions in Ohio and the country increase." Ds' MOL, p. 34.

139 They also appear to criticize Young for not limiting her recommendations to actions that could be taken solely by the Counties and that would not require the participation or assistance of any other third parties. Ds' MOL, p. 35 (noting Young does not opine on "which proposals involve actions that the Counties (as opposed to some other body) could take to address the opioid epidemic"). Young certainly acknowledges that a collaborative effort will be required to fully address the impact of the opioid epidemic on child welfare in the Counties. Young Dep., Dkt. # 1972-14 at 421:12-20, 422:3-7 ("The counties are very much involved with what these need to happen, but they – they can't do it by themselves. It takes all of these entities pulling together."), 422:19 – 424:4. But that fact in no way diminishes the relevance of Young's opinions regarding the types of actions that should be taken to abate this crisis.

not retained to provide these opinions, nor will they be providing such opinions at trial.[141] The fact that they are not opining on those matters certainly does not render irrelevant the abatement-related opinions they do provide. As discussed above, an expert's opinion is not irrelevant merely because it does not prove every element of Plaintiffs' claims. *Supra* at p. 5.

Critically, aside from listing out a number of topics on which Wexelblatt and Young do not opine, Defendants offer no substantive argument as to how or why these omissions have any effect on the relevance of their actual opinions. Ds' MOL, pp. 9-10, 34-35.[142] Moreover, Defendants do not challenge either of these experts' qualifications or substantively argue that their methodologies are unreliable. Ds' MOL, pp. 9-10, 34-35.[143]

Wexelblatt's and Young's abatement opinions are relevant to issues in this case. In order to determine the amount of any abatement award, the Court must first consider what abatement measures are reasonable and necessary to abate the opioid epidemic. As explained below, the expert opinions of Wexelblatt and Young directly relate to this latter issue. Significantly, nowhere in their Motion do Defendants argue that the abatement recommendations of Wexelblatt and Young are

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140 First, despite not knowing the specific details, Wexelblatt *did* consider the fact that some of his recommendations may have already been implemented to some extent by the Counties. Scott Wexelblatt Dep. (04/24/19), Dkt. # 1972-5 at 156:9-11, 160:17-24. His opinion is that *all* of his recommendations should be implemented, so to the extent the Counties have not yet implemented any particular recommendation, he advocates that they do so. *Id.* at 157:13-15, 158:20-22, 159:4-5, 160:15-16 ("If they're not doing it, then I would recommend them doing it."). Second, although Wexelblatt is not opining on whether and to what extent any specific Defendants' conduct caused the opioid epidemic, he does opine more generally regarding the impact of increased opioid prescriptions on the rate of babies born with NAS. *Id.* at 178:11 – 179:1.

141 Wex. Dep., Dkt. # 1972-5 at 93:14-21, 137:18 – 138:17, 149:17 – 150:7, 151:19 – 153:9, 187:25 – 188:5; Young Dep., Dkt. # 1972-14 at 91:17 – 96:22, 98:14-20, 164:18 – 166:1, 167:17-21, 222:8-13, 224:3-13, 362:6-14.

142 Indeed, had Wexelblatt and Young offered some of the omitted opinions, Defendants likely would have argued that they were not qualified to opine on those subjects.

143 In the Introduction to their Motion, Defendants state, in conclusory fashion, that the opinions of all Plaintiffs' abatement experts "are based upon unsupported assumptions and unreliable data" (*Id.* at p. 3), but they fail to pursue or support that argument with respect to Wexelblatt and Young elsewhere in their motion. Ds' MOL. They also claim Wexelblatt's and Young's testimony "is entirely dependent on Alexander and Liebman's irrelevant and unreliable abatement models." *Id.* at p. 3. Of course, as discussed above, Alexander's and Liebman's respective abatement models are neither irrelevant nor unreliable. *Supra* at § I. Regardless, Wexelblatt and Young did not rely on Alexander's and Liebman's models in forming their abatement opinions. Wex. Dep., Dkt. # 1972-5 at 176:18-23; Young Dep., Dkt. # 1972-14 at 74:23 – 75:10, 81:21 – 82:5.

unreasonable or infeasible. Ds' MOL, pp. 9-10, 34-35. Nor do they argue that the programs and services recommended would be ineffective in helping to abate the opioid epidemic. *Id.*

A. Wexelblatt's Opinions Are Admissible.

Wexelblatt's abatement opinions are relevant because they will assist this Court in determining which measures are reasonable and necessary to abate the opioid epidemic as it pertains to opioid-exposed pregnant mothers and infants. *Supra* at p. 40. Specifically, as part of his opinion, Wexelblatt recommended that the Counties implement certain prevention, treatment, and early intervention programs in order to improve the outcomes for opioid-exposed mothers and infants.[144] Wexelblatt has extensive experience researching, designing, and implementing these types of programs in Ohio.[145] His opinions are based on this significant experience, as well as his review of the relevant scientific literature.[146]

Defendants claim Wexelblatt "offered no evidence or citations to support why he chose [the] particular [abatement] recommendations" set forth in his report. Ds' MOL, p. 9.[147] Not so. In his report, he thoroughly explains the basis for his opinions, with many citations to supporting evidence.[148] Specifically, he explains that: (i) the rates of opioid-exposed pregnant women and

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144 Wex. Rep., Dkt. # 2000-25 at ¶¶ 15, 45-55 & § IV (pp. 22-24); Wex. Dep., Dkt. # 1972-5 at 158:16 – 159:5, 160:9-24, 197:23 – 198:3 ("Q: The focus of your report is on the need to take steps to address essentially the impacts of use by pregnant women of opioids that results in either NAS or having children born who had opioid exposure in utero, correct? A: That's what this report is about, yes.").

145 Wex. Rep., Dkt. # 2000-25 at ¶¶ 3-9; Wex. Dep., Dkt. # 1972-5 at 88:25 – 89:6, 373:17-20, 374:2 – 377:6.

146 Wex. Rep., Dkt. # 2000-25 at ¶ 15 ("This report draws upon my professional experiences, research and participation in studies as outlined in my qualifications relating to opioid exposed infants, a literature search of scientific publications and publications from authoritative sources such as the Center for Disease Control (CDC), the Substance Abuse and Mental Health Services Administration (SAMHSA), the American College of Obstetricians and Gynecologists (ACOG), World Health Organization (WHO), Ohio Department of Mental Health and Addiction Services (ODMHAS), Ohio Department of Health (ODH), Ohio Department of Medicaid (ODM), and the Ohio Perinatal Quality Collaborative (OPQC)."); Wex. Dep., Dkt. # 1972-5 at 335:10 – 336:13, 379:15 – 383:12.

147 Notably, Defendants cite no evidence for this assertion in their motion.

148 Wex. Rep., Dkt. # 2000-25 at ¶¶ 4-9, 16-60 & fns. 1-74. *See also* Wex. Dep., Dkt. # 1972-5 at 74:10-16.

infants have risen dramatically in the past two decades;[149] (ii) their exposure to opioids results in negative short-term and long-term consequences to their health and well-being, as well as costly expenditures for the hospitals;[150] and (iii) implementing programs and services focused on prevention, education, early intervention, and treatment will reduce the number of infants exposed to opioids and improve health outcomes for opioid-exposed mothers and infants.[151]

B. Young's Opinions Are Admissible.

Young's abatement opinions are relevant because they will assist this Court in determining which measures are reasonable and necessary to abate the opioid epidemic as it pertains to children of parents with OUD, and particularly those involved in the child welfare system, family court system, and other related service agencies. *Supra* at pp. 40-41. Specifically, Young provides a number of concrete recommendations to remedy the epidemic's impact on (i) infants and their families with prenatal opioid exposure in child welfare and related county systems, and (ii) families with OUD in child welfare and the related county systems.[152] She identifies certain programs that have already been initiated in the Counties, and describes how those programs could be improved and expanded, as well as what additional programs are needed.[153] She also thoroughly explains the basis for her recommendations and provides evidence demonstrating the effectiveness of the programs and services recommended.[154] Her opinions are based not only on her education, training,

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149 Wex. Rep., Dkt. # 2000-25 at ¶¶ 19-26, 30, 36, 39-44.

150 Wex. Rep., Dkt. # 2000-25 at ¶¶ 20, 27-28, 30, 32, 35-38, 43, 45, 49-51; Wex. Dep., Dkt. # 1972-5 at 37:17 – 38:2, 40:18 – 43:10, 44:21 – 45:17, 229:4 – 231:6, 240:7 – 244:6, 354:17-19, 378:5-10, 381:22 – 383:6, 389:22 – 390:12.

151 Wex. Rep., Dkt. # 2000-25 at ¶¶ 5-9, 24, 29-35, 45-60 & § IV (pp. 22-24); Wex. Dep., Dkt. # 1972-5 at 34:24 – 37:1, 38:18-23, 40:6 – 41:9, 100:12 – 101:25, 102:15 – 103:22, 112:21 – 113:9, 114:25 – 115:6, 126:17-22, 161:22 – 162:24, 164:5-18, 278:1-21, 349:4 – 350:5, 351:24 – 352:9, 353:16-20, 376:9-20, 377:12-16.

152 Young Rep., Dkt. # 2000-27 at pp. 35-37; Young Dep., Dkt. # 1972-14 at 261:17 – 262:3.

153 Young Rep., Dkt. # 2000-27 at pp. 22-37; Young Dep., Dkt. # 1972-14 at 164:5-8, 246:15 – 247:1, 249:14 – 250:6, 252:18 – 257:18.

154 Young Rep., Dkt. # 2000-27 at pp. 2-35; Young Dep., Dkt. # 1972-14 at 166:21 – 167:16, 167:22 – 168:1, 170:2-21, 245:5 – 246:10, 252:5 – 253:12, 356:24 – 357:13, 388:3 – 389:7, 418:19 – 419:9.

and review of the relevant data and scientific literature,[155] but on her extensive hands-on experience in this field:[156]

> Each of these experiences and depth of my knowledge deepened and informed my understanding of the national and county-level data presented in the report. The recommendations in this report are consistent with my 25-year career and knowledge of improving practice and policy on behalf of these children and families.

Young Rep., Dkt. # 2000-27 at p. 3.[157]

IV. DEFENDANTS' MOTION TO EXCLUDE MCGUIRE'S ABATEMENT OPINIONS SHOULD BE DENIED AS MOOT BECAUSE HE IS NOT OPINING ON ABATEMENT.

As Defendants themselves acknowledge, McGuire has expressly stated that he is not providing any abatement opinions.[158] Accordingly, Defendants' motion to exclude his abatement opinions should be denied as moot.

CONCLUSION

For the foregoing reasons, this Court should deny Defendants' Motion to Exclude Expert Testimony Purporting to Relate to Abatement Costs and Efforts in its entirety.

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155 Young Rep., Dkt. # 2000-27 at pp. 2-3, 35; Young Dep., Dkt. # 1972-14 at 191:22 – 192:17, 203:13-21, 288:8-20.

156 *See, e.g.,* Young Rep., Dkt. # 2000-27 at pp. 1, 3; Young Dep., Dkt. # 1972-14 at 210:19 – 211:11, 216:22 – 217:24, 243:7 – 247:1, 247:20 – 250:6, 252:5 – 256:18, 272:20 – 273:23. Among other things, she "developed the evaluation strategy for the County of Sacramento's substance use and child welfare initiatives beginning in 1996." Young Rep., Dkt. # 2000-27 at p. 3. She "originated the County's approach to using administrative data sets to monitor client outcomes from the California information systems for child welfare and substantive use treatment data. . . . Similar methods have now also been tested in a proof of concept for the State System Improvement Program (SSIP) for the Ohio Supreme Court at the School of Medicine at Ohio State University. This was to assess the Ohio Family Treatment Courts. Thus, [she has] spearheaded the country's efforts in using administrative data to monitor performance measures for families with substance use disorders in child welfare." *Id.*

157 *See also* Young Dep., Dkt. # 1972-14 at 65:7-10.

158 Ds' MOL, p. 35; McGuire Nuisance Rep., Dkt. # 2000-18 at p. 3 n.6.

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